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ABSTRACT

Volume 1 of the two-volume textbook on nursing skills presents instructional materials (units 1-20) based on 184 activities designated by the Allied Health Professions Projects national survey as those which are accomplished by all levels of nursing. Unit titles are: (1) the health worker and the law; (2) introduction to ethics in the healing arts; (3) environment and the patient; (4) guidelines for performance of nursing skills; (5-6) body alignment, balance, and movement for health workers, parts 1 and 2; (7) introduction to charting; (8) handwashing technique for medical asepsis; (9) making hospital beds; (10) assisting the patient to dress and undress; (11) baths; (12) care of the hair; (13) special skin care; (14) patient movement and ambulation; (15) mechanical aids for ambulation and movement; (16) positioning the bed patient; (17) assisting with nutrition; (18) fluid intake and output; (19) observing intravenous therapy; and (20) assisting with spiritual care. Each unit includes: student directions, performance objectives, vocabulary, pre- and posttests, performance tests and checklists, and illustrated instructional materials. Materials are adaptable for on-the-job training through the associate degree in nursing, as well as adult education and staff development programs. (Author/EC)

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Nursing Skills for Allied Health Services

VOLUME 1

Edited by
LUCILE A. WOOD

U.S. DEPARTMENT OF HEALTH,
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Nursing Skills for Allied Health Services

Volume 1

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FOREWORD

The Division of Vocational Education, University of California, is an administrative unit of the University concerned with responsibilities for research, teacher education, and public service in the broad area of vocational and technical education. During 1968 the Division entered into an agreement with the U.S. Office of Education to prepare curricula and instructional materials for a variety of allied health areas. For the most part such materials are related to instruction for programs ranging from on-the-job training through the Associate degree level. They also are adapted for use in adult and continuation education.

Because of the crucial staff shortages in the nursing occupations, the Allied Health Professions Projects undertook a national functional analysis of the activities of persons actually employed in health care facilities. This survey was designed to determine what skills were required by personnel employed in the several nursing occupations. The results of this survey have been incorporated into the present text, which covers the activities of entry-level personnel and comprises a comprehensive introduction to nursing. It also presents material which is adaptable to the training of other allied health personnel and seeks to provide a basic introduction to patient care services wherever they may be provided.

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PREFACE

Nursing, like all other health professions, has been undergoing monumental change since 1965, when major health legislation was begun at the federal and state levels of government.

In order to meet the growing health needs of our citizens, the nursing profession is taking some positive steps to make sure that care from competent and concerned health personnel is provided whenever and wherever the need arises.

As a Director of Nursing Service in a large suburban hospital, it was my responsibility and desire to employ nurses whose first concern was for people, and who were also skillful and knowledgeable when administering nursing care to patients. Nursing administrators generally agree that many graduates of recent nursing programs are not able to give such direct bedside care. Hence, when these new nurses are first employed, they face not only the frustrations of evolving from a student to a graduate nurse, but they must also simultaneously develop their clinical competence.

Therefore, when the opportunity presented itself to develop a nursing curriculum based on national occupational statistics for the U.C.L.A. Allied Health Professions Projects, I was eager to accept the challenge.

The Allied Health Professions Projects (AHPP) is a national curriculum research and development program funded in August 1968 as a four-year grant by the U.S. Office of Education. The core curriculum concept and career mobility patterns in allied health were two of its primary considerations.

The instructional materials in this textbook are built around the 184 activities designated in the AHPP national survey as those which are accomplished by all levels of nursing — N.A., L.P.N. (L.V.N.), and R.N. These activities were incorporated into the 36 instructional units which comprise this text.

Because AHPP was attempting something new in media methodology, the process of developing the materials was a difficult one. Initially, the activities defined in the national survey were outlined in a job breakdown (i.e., subdivided into a logical, orderly sequence which was designated as "Important Steps"). Then, each Important Step was supported by practical content under the heading "Key Points," giving related theory which clarified this step. This included factors that make or break the successful attainment of a skill, e.g., safety precautions; suggestions for making the step easier to do (special timing, handling, positioning, or sequencing); related biological concepts or principles of microbiology where applicable; communication and human relations skills required to assure successful completion of the activity; and pertinent ethical or legal concepts.

The sequence of units was established on the premise of progression from the general and simple to the more specific and complex subjects. It should be noted here that all nursing personnel, regardless of their final exit point on the nursing career ladder, should be well-grounded in the theory and practice of these basic nursing skills before moving on to more advanced responsibilities. Successful completion of this text should assure a competent practitioner who can interrupt the nursing educational process to work as a nursing assistant (entry-level practitioner). It should also provide a sound basis for moving on to the complex skills and theoretical knowledge required in the succeeding levels of nursing practice.

These materials represent an example of media methodology which, on the one hand, permits the student to move at his own rate of speed through the background information and procedural skills and, on the other hand, permits the instructor to be released from the need to repeat information to each incoming student. This allows the instructor additional time that can be spent more productively and creatively in the practice and clinical laboratories, assisting the students to polish their performance, expand their interests and comprehension, and to apply the knowledge and skills related to the care of their patients in the clinical assignments.

The materials are adaptable to a variety of teaching settings; they can be used for on-the-job training through the Associate degree in nursing as well as for adult education and staff development programs for nursing personnel and other allied health professionals who require these skills.

LUCILE A. WOOD

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I am deeply grateful to the many people who have assisted in the completion of this textbook:

The students and faculty members who have given many valuable suggestions at the following test sites: St. John's Hospital, Santa Monica, California, where the materials were utilized in nurse aide training programs; Santa Monica College, which used the materials in a community nurse aide program as well as in the beginning semester of its LVN program; the Secondary School Pilot and Demonstration Project of the U.C.L.A. Allied Health Professions Projects, which incorporated selected modules into its 10th grade curriculum; West Valley Community College, Saratoga, California, where the materials were utilized to upgrade employed nurse aides in local convalescent hospitals; Grossmont College in El Cajon, which incorporated the units into the beginning semester of its Associate degree RN program; The Center for Allied Health Careers at the Johns Hopkins Medical Institutions, Baltimore, Maryland, which tested the materials in its Family Health Team Curriculum; Charlotte Memorial Hospital, Charlotte, North Carolina, which tested them as a staff development program for nursing assistants; Central Piedmont Community College, Charlotte, North Carolina, which tested the units in its nursing assistant program as well as the beginning semester of its LPN program.

I would also like to thank the writer consultants and the members of the National Advisory Committees for Nursing and the AHPP Project, as well as individual members of the AHPP Staff who assisted in many aspects of the developmental phases. In particular, I would like to thank Melanie Herrick, my secretary, who efficiently fulfilled many demands throughout the numerous revisions. The Project administrators, Dr. Thomas Freeland, Dr. Katherine L. Goldsmith, and Dr. Miles Anderson, worked unstintingly to help me clarify my progress and goals at various critical junctures along the way. My grateful acknowledgment goes to Mrs. Seba Kolb, our staff editor, for her many hours spent deliberating over the drafts.

And finally, my thanks to Mr. Robert E. Wright, Nursing Editor for the W. B. Saunders Company, Publishers, for his enthusiasm, support, and practical suggestions given throughout the prepublishing phases.

L.A.W.

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Unit 1

THE HEALTH WORKER AND THE LAW

I. DIRECTIONS TO THE STUDENT

Please read the following paragraphs carefully. They will tell you exactly what you are expected to know at the end of the unit. You will need the following items:

1. This instruction unit, pen or pencil.
2. The post-test to be taken at the end of the lesson.

If you believe you would be wasting your time studying this unit because of your knowledge and previous experience in this area, please discuss with your instructor the possibility of omitting the reading of this unit and going directly to the post-test.

II. GENERAL PERFORMANCE OBJECTIVE

You will give evidence of your knowledge of the law by answering successfully in a written exam questions based on definitions of legal terms and an understanding of legal problems which might occur during a patient-health worker relationship.

III. SPECIFIC PERFORMANCE OBJECTIVES

In the written post-test you will answer with at least 80 per cent accuracy questions related to the following capabilities. You will be able to:

1. Distinguish in a given situation who is the health worker.
2. Recognize the definition for the term "law" as used in this study.
3. List the main sources for the law and specifically "medical" law.
4. Demonstrate your knowledge of the rights of the individual under the law and how these rights might be violated if consent and medical orders are inadequate.
5. Recognize in given situations when an act can be interpreted as malpractice or negligence.
6. Distinguish civil from criminal law.
7. Demonstrate your knowledge of responsibility in relation to legal records.
8. List several basic rules to follow for the prevention of litigation.

IV. VOCABULARY

assault — either a threat or an attempt to injure another in an illegal manner.

battery — unlawful touching of another person without his consent, with or without resultant injury. Assault and battery are often charged together because of successful attempt to injure.

civil law — pertains to legal relationships between private individuals.

- common law**— term given to unwritten law, customs with authority of law, or precedents established by judges and juries in past cases.
- consent**— permission granted by a person voluntarily and in his right mind. Written consent is safer because it is easier to prove.
- crime**—an act that is forbidden or the omission of a duty; that is commanded by a public law and that makes the offender liable to punishment by that law.
- criminal law**—defines legal obligations between the individual citizen and the state; distinguished from civil law, which defines legal relationships between private individuals.
- duty of care**—the obligation under law for a nurse or other health worker to perform services for a patient which meet the common standards of practice expected in her community for a comparable worker.
- ethics**—the discipline dealing with what is good and bad, and with moral duty and obligations. A professional person is characterized by adherence to technical and ethical standards of a profession.
- false imprisonment**—holding or detaining a person against his will.
- felony**—a term used for serious crimes, for which the penalty is imprisonment in the state prison for more than one year, and possibly the death penalty.
- invasion of privacy**—a civil wrong that unlawfully makes public knowledge of any private or personal information without the consent of the wronged person.
- libel**—a civil wrong; to communicate in writing defamatory matter about an individual or group to a third party.
- licensure**—authorization by the state to practice one's profession or vocation. Involves control of educational standards, licensing examinations, and prohibitions for individuals who are not licensed.
- litigation**—another term for law suit.
- malpractice**—literally "bad practice," it has come to mean professional care that has led to injury, due to faulty practice or neglect.
- misdemeanor**—a term used for crimes less serious than felonies; they are punishable by imprisonment in the county jail for a term of less than one year.
- negligence**—failure to perform in a reasonably prudent manner.
- privileged communication**—any personal or private information which is relevant to his care given by a patient to medical personnel.
- reasonable care**—(Refer to definition for *duty of care*.) The health worker is protected by law if it can be determined that she acted reasonably as compared with fellow workers; the patient is protected by recognition of the health worker's responsibility for duty of care.
- slander**—spoken statement of false charges or misrepresentations which defame or damage another's reputation as distinguished from libel, which is written.
- statutory law**—that law which has been enacted by a legislative branch of the government.
- tort**—a civil wrong; it may also be a crime.
- will**—a written document, legally executed, by which a person makes disposition of his property to take effect after his death.

Note: The student should be aware that these definitions are simplified for the sake of this introductory study.

V. INTRODUCTION

As a new worker in the health field it is important for you to become aware of the problems which may occur when you care for patients. The purpose of this instructional unit is to provide you with information that will assist you in identifying and preventing medical-legal problems.

It may be disturbing to realize that although you and your classmates are here to learn specific techniques and procedures used in caring for patients, there is a need for concern about the threat of medical-legal problems which could arise in your daily work.

A health worker may be defined as anyone who comes in contact with the patient, to

serve him and to have access to his records. As a consequence, the patient must place great trust in the health worker. Violation of the patient's trust and confidence by the health worker may be interpreted as an illegal or immoral act.

Before presenting information relating to the health worker and the law, a brief look is required at the types of laws which are encountered in everyday living. This will serve as a foundation for the more specific instructions to follow.

The word "law" may be used in different ways. For example, there are physical laws, such as the law of gravity; moral laws, such as the law of Moses; common law (unwritten law), based on custom and precedent, which constitutes the foundation of our country's legal system; and statutory or legislative laws which are written laws passed by the legislative branch of government, both federal and state.

You should now know and understand the following definitions: health worker, physical law, moral law, common law, and statutory law. If you cannot define these terms or think of examples of each, reread this introduction and the vocabulary. You may ask your instructor for additional resources.

ITEM 1. PROTECTIVE LAWS

When a patient places himself in our hands, he expects us to protect his life and all his human rights under the law. You can see how great our responsibility is to him. The law tries to protect the patient and the health worker as well by setting up standards and licensure for medical care.

The concept of basic human rights has slowly developed and is now widely accepted throughout the country.

We may think of this as a Bill of Rights for Patients. Certain basic rights are assured. It sometimes happens, however, that to give good health care these rights must be limited. For example, a patient's basic right of freedom is interfered with to provide him with medically indicated bed-rest. If bed-rest is needed, there must be a patient's consent as well as a doctor's order for the health worker to follow. Patients usually sign a general admission agreement when entering a health agency for treatment. If the patient does not voluntarily agree to sign the consent, the doctor and the health agency could be guilty of false imprisonment.

We must be doubly careful in any patient care situation which involves detaining or restraining a patient. For example, protective restraints are often used to remind a patient to hold his arm still while he is receiving intravenous fluids. Protective restraints may be used to restrain an elderly, irritable patient. In such a case, "protective restraints" may be questionable. Are they used to protect the patient or to prevent annoyance to the health care team? However, some patients must be restrained to protect themselves and others. This is often true with confused, disoriented patients. In such cases, be sure your judgment is correct and that you have the proper authorization to restrain.

There may be additional ways of violating a patient's rights, e.g., assault and battery. "Assault" is the handling of a patient with the threat to do harm or to restrain him forcibly. An example of a threat could be, "If you don't stay in your room, we'll put you in restraints."

As an extension of the verbal threat, there may be actual illegal bodily contact without the patient's consent; in this case the action is called "battery." An example of this situation occurs in Emergency Rooms when patients are brought in by the Police Department to have blood drawn for testing on a drunk driving charge. The procedure cannot be carried out without the patient's consent, unless he has been arrested, charged, and taken into police custody. When someone breaks the law the status of his basic rights changes.

It is important that you understand from the foregoing paragraphs that there is protection for all. The patient is not to be coerced and the health worker must be carrying out valid orders.

Gossiping about a patient is another important area in which you must be extremely careful of the patient's rights. Gossip may be considered "defamation of character." A carelessly spoken word can be judged "defamation by slander." A written entry in a patient's chart such as "patient was a cranky old so-and-so today," is considered written defamation and is called "libel." It can be declared an illegal act.

As you care for patients, you will often be entrusted with personal information, espec-

ially relating to their condition. This is called "privileged communication" and must be held in absolute confidence. You have heard about privileged communication in the context of clergymen, lawyers, doctors, and news reporters. Now you, too, will have this responsibility.

The last in our list of abuses of a patient's rights is the "invasion of privacy." An example of this could be a press photographer bursting into the patient's room following admission after a spectacular car wreck in which all other persons involved were killed. It is your responsibility as a health worker to protect your patient from this.

It is often difficult to analyze the patient's basic rights in light of prescribed medical services. In the next section we will consider the quality of care the patient receives and what the law says about it. However, before moving on to the next section, you should be able to define and give examples of the following terms: standards and licensing laws, Bill of Rights, right of freedom, false imprisonment, assault, battery, slander, libel, privileged communication, and invasion of privacy. If you cannot define these terms, reread this section. If you can, then proceed with the next section.

ITEM 2. LEGAL JUDGMENTS

Many judges have been faced with the dilemma of ascertaining that a patient is guaranteed safe care while the conscientious health worker is protected from lawsuits. The patient is legally entitled to good care; he pays for it and expects it. The law supports the patient and makes the health worker responsible for "duty of care." On the other hand, the health worker is protected by the concept of "reasonable care." This is a standard which states that the level of care must be equal to the care given by a comparable worker in similar circumstances. If the health worker does not meet this standard of reasonable care and if harm therefore comes to the patient, the worker may ultimately be judged negligent. Negligence may be failure to give reasonable care or giving unreasonable care.

The terms "negligence" and "malpractice" are sometimes hard to distinguish. For most purposes, the term malpractice has come to mean professional care which is below the standard expected by the community. In other words, mal- means bad, or faulty practice.

To clarify these terms, let's look at the following examples: When a nurse fails to give a prescribed medicine or treatment, negligence is involved because she has overlooked it or perhaps run out of time on her shift. Malpractice, on the other hand, would be giving the wrong medication or treatment to the patient.

It is customary to hold the person with the highest level of training and licensure responsible for the consequences of what he does or neglects to do. The registered nurse is responsible for the care of patients on her assigned list, even though other workers, such as the NA or LPN (LVN) perform some of the duties. She is the one ultimately held responsible. This is not meant to indicate, however, that persons of lesser training or licensure would not be held responsible for their own actions. It simply means that the person of the highest level of education and licensure is the final person to be held responsible—often it may be the physician. This concept deals with the chain of command; i.e., the person to whom one is directly responsible for one's actions.

Before leaving the subject of negligence and the possibility of being sued by a patient (commonly called a lawsuit or litigation), let us consider the seriousness with which a lawsuit may be treated by the court.

If the degree of injury to the patient is slight and the intention of the health worker was not to harm, the law may be able to keep the entire litigation between the patient and the health worker instead of going to court. In this case, the accusation is called a "tort," is treated under civil law, and is known as a civil suit. On the other hand, if it is shown that the health worker intended to injure the patient, the case is removed from settlement by civil law and becomes a criminal suit. The defendant has not only injured a person (patient) but has committed an unlawful act against society.

It is understandable that the more serious the crime, the more severe the punishment. Serious crimes are called felonies, while lesser crimes are called misdemeanors. Both types are handled under the criminal law procedures.

The section on legal judgments is now complete. You have received information on

many complex concepts. Before moving on to the next section, be sure you can give a definition and example of each of the following terms: duty of care, reasonable care, negligence, malpractice, lawsuit, litigation, tort, civil law, criminal law, felony, and misdemeanor. If you know these terms, continue with the next section.

ITEM 3. LEGAL DOCUMENTS

As a health worker, you may handle or be responsible for certain documents, records, and legal papers. Three important documents you may handle are the patient's chart, the written consents, and his will. When the term "legal document" is used, it indicates that it is acceptable in courts of law as evidence of truth; it is above reproach, and is subject to the scrutiny and standards of any legal person.

Let us examine a patient's chart in these terms. Is it complete? Is it signed? Is it in ink and in no way altered? These are questions asked when determining whether it is an acceptable legal document. In other words, if the health worker were to appear in court, the lawyer showing an entry in the patient's chart would be expected to ask, "Is this your signature? What did you mean by what you said here?" Later in this course you will learn to chart your nursing care on the patient's chart. With the knowledge you have gained from this unit, you will be more aware of how important it is to chart legibly, accurately, and according to prescribed charting rules.

Another very important legal record is the "signed consent." In court action, the lawyer can be expected to ask any or all of the following questions:

"Is there a consent form available for use in this instance?"

"Was the patient competent to sign?" (He was not disoriented, confused, etc.)

"If the patient was not competent to sign, is the signature on the consent that of the legally authorized person?" (Specific information on this subject is discussed in a later unit on consents, releases, and incidents.)

"Did the patient consent to what was done, or can this consent be otherwise interpreted?"

"Was the consent signed before the treatment was given?"

Without proper consents signed by the patient, we can be accused of illegal acts (there are certain agency rules about who may witness consents; these will also be discussed in the unit on consents).

Another important document is the will. You may be asked to witness a patient's signature when he signs a will. According to law, a will must be signed in ink, signed voluntarily by the patient while in sound mind, and witnessed by at least two persons over the age of 21. The health worker may be required to witness a signature on a will. If so, follow the agency procedure. Many agencies designate one individual who may be permitted to sign as a witness to a signature on a will.

Perhaps you can think of ways in which you might prevent becoming involved in a lawsuit? If you responded with comments along the following lines, you are to be commended for your understanding of your legal responsibilities for your patient's care:

"I will be a conscientious worker because the patient is my responsibility, no matter how I feel or how distracted I am."

"I will be observant of the patient's rights and avoid any violation of them."

"I will be careful with the paperwork for which I will be responsible. I will do all in my power to see that all documents are legally correct."

"I understand what is meant by chain-of-command. In the future I will do only those things for which I have been trained and supervised to do."

ITEM 4. CONCLUSION

You have completed the lesson on the Health Worker and the Law. You should have a good idea of the law as it relates to you while performing your job of caring for patients. Hopefully, you are now aware of how important it is to do your best. Always be mindful that in your work in the health field, you are entrusted with the care of other persons, and this is the most precious trust in life. In the next unit we will discuss ethics and how it differs from law and what your ethical responsibilities will be in caring for your patient.

When you feel sure you understand this lesson, ask your instructor to allow you to take the post-test. You will be expected to pass the test with at least 80 per cent correct answers.

VI. ADDITIONAL INFORMATION FOR ENRICHMENT

The material presented in this unit is very complicated. You may be interested in learning more about your legal responsibilities as a health worker; if so, ask your instructor for additional reading assignments.

POST-TEST

I. Match statement on the right to the most appropriate term on the left.

- | | |
|---------------------------------|---|
| ___ 1. duty of care | A. threatening to injure another person |
| ___ 2. statutory law | B. detaining unlawfully |
| ___ 3. invasion of privacy | C. the highest concept of right and wrong |
| ___ 4. slander | D. meeting expected standards |
| ___ 5. ethics | E. illegal act between persons |
| ___ 6. negligence | F. less serious crime |
| ___ 7. privileged communication | G. making personal information public without due consent |
| ___ 8. battery | H. failure to give reasonable care |
| ___ 9. tort | I. laws made by legislature |
| ___ 10. misdemeanor | J. verbal defamation of character |
| | K. unlawful handling of a person without his consent |
| | L. unwritten law |
| | M. information kept in trust by medical personnel |

II. Fill in the blanks with the term being defined.

1. If someone commits an illegal act against society, this is called a _____.
2. A lawsuit may also be called a _____.
3. A civil suit is one brought between an individual and a/an _____.
4. Written defamation of character is called _____.
5. Detaining a person unlawfully against his will may be interpreted as _____.

III. Choose and circle the one best answer.

1. A ward clerk never saw a certain patient in the hospital but was accused by his family of defamation of character. She was most likely guilty of:
A. assault and battery
B. felony
C. slander
D. negligence
2. A nurse's aide inserted a rectal thermometer in an unconscious patient and left the room to finish another task. The patient moved, broke the thermometer, and sustained injury. Which of the following might she be sued for?
A. reasonable care
B. felony
C. assault
D. negligence

3. A patient's chart after dismissal is:
- A. kept for seven years
 - B. public property
 - C. a legal document
 - D. given to his doctor
4. A registered nurse is asked by the doctor to perform a treatment for his patient that she does not know how to do; however, she does it and harms the patient. The person or persons most likely to be held for negligence is the:
- A. doctor
 - B. registered nurse
 - C. supervisor
 - D. hospital
5. A will is not valid if when signing it the patient can be proved to have been:
- A. under the influence of sleeping pills
 - B. not mentally competent
 - C. coerced
 - D. displeased with the witnesses
 - E. all of these
 - F. none of these
 - G. A, B, and C
 - H. C and D
6. A patient may not be detained at the hospital until he pays his bill because this may be considered the illegal act of:
- A. invasion of privacy
 - B. false imprisonment
 - C. defamation of character
 - D. libel
7. A malpractice suit can be brought against a hospital or health worker for the following:
- A. a stroke patient falling from a wheelchair
 - B. a diabetic not receiving insulin as ordered
 - C. a patient overexposed with X-ray
 - D. a patient losing a valuable ring
 - E. all of these
 - F. A and B
 - G. A, B, and C
 - H. A and C
8. A nurse may be said to have acted with reasonable care if she:
- A. is a specialist in emergencies
 - B. has been a supervisor
 - C. has nursed for twenty years
 - D. did what other nurses of similar background would have done in similar circumstances.

9. A nurse's aide was instructed by a licensed practical nurse to place a hot water bottle for comfort at the feet of a patient who is paralyzed from the waist down. It resulted in severe tissue damage. Who will probably be held for an act of negligence?
- A. the hospital
 - B. the doctor
 - C. the aide
 - D. the licensed practical nurse
10. Which of the following will help the health worker avoid litigation?
- A. consistent practicing of conscientious care
 - B. obtaining written consents
 - C. always considering human rights
 - D. staying within the limits of her training
 - E. all of these
 - F. A and D
 - G. A, B, and C
 - H. A and C

POST-TEST ANNOTATED ANSWER SHEET

- | | |
|----------------|--------------|
| I. 1. D (p. 2) | 6. H (p. 2) |
| 2. I (p. 2) | 7. M (p. 2) |
| 3. G (p. 2) | 8. K (p. 1) |
| 4. J (p. 2) | 9. E (p. 2) |
| 5. C. (p. 2) | 10. F (p. 2) |

- II. 1. crime (pp. 2 and 4)
2. litigation (pp. 2 and 4)
3. individual (or term of comparable meaning) (pp. 2 and 4)
4. libel (pp. 2 and 3)
5. false imprisonment (pp. 2 and 3)

- | | |
|------------------|--------------|
| III. 1. C (p. 4) | 6. B (p. 5) |
| 2. D (p. 4) | 7. C (p. 9) |
| 3. C (p. 5) | 8. D (p. 4) |
| 4. B (p. 4) | 9. D (p. 4) |
| 5. C (p. 5) | 10. A (p. 5) |

Unit 2

INTRODUCTION TO ETHICS IN
THE HEALING ARTS

I. DIRECTIONS TO THE STUDENT

Please read the general and specific objectives carefully. Study the vocabulary, and proceed through the lesson as directed.

II. GENERAL PERFORMANCE OBJECTIVE

You will demonstrate your understanding of the importance of ethics in the role of the health-related hospital worker. You will answer questions to demonstrate understanding of ethical behavior in health service situations.

III. SPECIFIC PERFORMANCE OBJECTIVES

In a testing situation, you should answer with 80 per cent accuracy written questions about:

1. The definition of ethics.
2. The difference between legal aspects and ethical considerations.
3. Persons who make up the health team.
4. The necessity for and utilization of ethics in hospital situations.
5. Application of ethical behavior guidelines in judging appropriate choices of action in eight hypothetical health-related situations.

IV. VOCABULARY

~~breach~~—breaking (infraction) of a law, or of any obligation, tie or contract.

~~complex~~—not simple; complicated.

~~conduct~~—mode of action in general; behavior.

~~custom~~—long established practice; an accepted behavior.

~~dependent~~—having to rely on another person for help or support.

~~employee~~—one who is hired for a specific job or type of work.

~~employer~~—one who hires another for a specific job or type of work.

~~ethics~~—a code of conduct for a particular group representing ideal behavior.

~~expire~~—to cease; to die.

~~hygiene~~—rules designed for the promotion of health; sanitary science.

~~hypothetical~~—for the purpose of reasoning; fictitious with a logical purpose.

~~ideal~~—a standard of perfection or excellence.

~~open~~—open; not hidden.

~~solvent~~—solution which dissolves a substance, converting it to a liquid.

unethical—not ethical; not representative of ideal behavior.

utilization—to make use of.

value system—behavior, pattern of conduct, or ideas that are accepted as worthwhile or meaningful.

V.N. student—vocational nursing student. When they complete their course and become licensed, they are called LVN's or LPN's. All states except California and Texas call this practitioner LPN (Licensed Practical Nurse). They are graduates of an accredited one-year nursing program.

V. DRAMATIZATION

- MISS JOHNSON**
Instructor We're happy to have the nursing students from the Community College join our hospital orientation session for new employees. Technically, the students are not employees of our hospital, but they do have their clinical assignments here, and are therefore part of the hospital team. Our topic for discussion today is *Introduction to Ethics in the Healing Arts*.
- MISS SMITH**
V.N. Student I Miss Johnson, what does "ethics" mean?
- MISS JOHNSON** It comes from a Greek word that means "custom." There are many definitions we could use, but let's try this one: "Ethics is a code of behavior that represents the ideal conduct for a particular group."
- MISS MCGUIRE**
V.N. Student II Well, I expect to become a Licensed Practical Nurse (LPN), so will my ethical conduct be different from yours as a Registered Nurse?
- MISS JOHNSON** Each profession or vocation requiring a license in the health occupations has a written Code of Conduct that has been approved and adopted by its membership. These codes, whether for the Physician, Registered Nurse, Licensed Practical Nurse or other group have many things in common. For example: (1) the rules are based on reason, good judgment, and an understanding of the difference between right and wrong behavior; (2) they strive to respect the dignity and rights of the individual patient.
- MISS SMITH** I've noticed that I have a tendency to judge all nurses by the actions of the few I know.
- MISS JOHNSON** That's a common reaction and one good reason for each member of a group to strive for ideal behavior. Ethical conduct by the individual members of the group presents the whole group in a favorable light to the public.
- MRS. DEEDS**
Housekeeper Assistant What do you mean by right and wrong? Maybe what is right for me is not right for you.
- MISS JOHNSON** It is true that every person has his own "customs" and perhaps his own value system for what is right or wrong based upon his personal life experiences. However, by accepting employment in a hospital, the worker must accept the "ethics" or "customs" required by the employer.
- MR. THOMAS**
Orderly Why are ethics necessary? Couldn't the employer just give us a hand-book of rules when we apply for a job?
- MISS JOHNSON** Sometimes this is done, but through the ages societies and groups have had codes of conduct as a method of preventing friction between people, improving personal and group status, and encouraging growth or development in one's life. For example, Hippocrates, the Greek Father of Medicine, proposed a code of conduct for physicians before the birth of Christ!

MISS SMITH I'd like to know how ethical conduct differs from my legal requirements as a hospital employee.

MISS JOHNSON That is a point which needs careful explaining. Ethical conduct codes are written and adopted by the membership of the groups. Ideal behavior is encouraged through education, example, and discussion. Hopefully, enforcement is seldom needed. But sometimes a person whose conduct is highly unethical may be disciplined by the group or even lose his membership in the group. As one of you mentioned earlier, the group is judged by the behavior of its members, so an unethical member is expected to conform or lose his membership privileges. None of you is as yet a member of a professional group, but you are members of the hospital group and as such, unethical conduct which reflects upon the hospital could result in reprimand or expulsion from the hospital—that is, loss of employment.

MRS. SAYRE Miss Johnson, could you explain this a little more and perhaps give us some examples of the difference between unethical and illegal conduct.

MISS JOHNSON Ethics has to do with our moral responsibilities or behavior, as we said, and violation of an ethical concept means that we are not living up to ideal moral or ethical behavior. Legal requirements (laws) are set by the society as a whole, that is, by national, state, or local governments. Violation of these laws places the guilty person in trouble with the law enforcement agencies. For example: ethical conduct for a Registered Nurse or Licensed Practical Nurse requires that the uniform and cap should not be worn in public places. A nurse who does so is unethical, but she has not violated any laws that will cause her to be arrested. However, if the nurse takes money from the wallet of an unconscious patient, she has violated the law, and the action could result in her arrest and punishment. She has, of course, also committed a serious breach of ethics by her lack of ideal conduct.

MR. THOMAS I don't seem to fit in any group. I don't wear a cap, and I'm not an RN nor an LVN. Where do I get my ethical guidelines?

MISS JOHNSON As an orderly giving direct patient care, you belong to the Hospital Group. And since you will be working under the direct supervision of the Registered Nurse and also with the Licensed Vocational Nurses, why don't you read the codes of ethics for these two groups?

(Turn to the appendix at the end of this unit and read the International Code of Nursing Ethics and the Code of Ethics for the Licensed Practical Nurse. When you have completed these two codes, complete the following questions.)

1. Ethics is a code of _____ that represents _____ behavior for a particular _____.
2. A violation of ethical behavior may result in discipline by _____.
3. A violation of a legal requirement might result in discipline by _____.

MISS JOHNSON Now that you have read two codes of conduct for some groups of health workers, let's continue our conversation by making a list of specific situations in which a hospital worker would have to make a choice in his or her behavior, based upon an ethical judgment. Mr. Thomas, can you name a principle or situation that you have experienced along this line?

MR. THOMAS Yes, I must give the best possible care to each patient regardless of his financial status, religion, race or creed.

MISS JOHNSON Very good.

- MR. THOMAS And I must respect his religious beliefs and try not to convert him to mine.
- MRS. SAYRE That certainly follows our basic guideline of respecting the dignity and basic rights of the individual.
- MISS JOHNSON Mrs. Harmon, how do you think that "ethics" affect your relationship with your employer?
- MRS. HARMON I guess I should report for work on time, and not leave early, and not take time off unless I'm really ill.
- MRS. WALTERS How about doing a day's work for a day's pay, and always doing your share of work so that your co-workers can rely on you?
Nurse Aide
- MRS. HARMON I think that would be fair to everyone.
- MISS McGUIRE Miss Johnson, I'd like to add to that list. You told us in class that we must stay with our patient if needed until relieved; isn't that part of ethical conduct too?
- MISS JOHNSON Yes. If you were to leave before your relief came, and your patient suffered harm, it might also carry a legal penalty. So you see that the line between ethical (ideal) behavior and legal requirements is sometimes a little hazy. However, the worker who consistently holds to ideal behavior should not have to worry about meeting the requirements of the law. Miss Andrews, you had your hand up.
- MISS ANDREWS I read in the employee's handbook that I can't wear any jewelry on duty, nor any nail polish except very pale or clear. Why is that in the handbook?
- MISS JOHNSON The hospital worker's uniform is designed so that it can be easily cleaned to help the worker maintain a well-groomed and immaculate appearance. Unnecessary adornment such as floppy handkerchiefs and jewelry increase the difficulty of keeping clean, and are usually not permitted with the uniform. Soiled uniforms, jewelry, and other adornments may carry germs which can cause disease or infection. It is your ethical duty to prevent the transfer of germs from patient to patient. This can be easily done by keeping your uniform and hands clean. Organized nursing has had its roots in both military and religious disciplines and adhered quite strictly to the dignity of the uniform as a "symbol" of the profession. However, a great deal more latitude is allowed now—the introduction of pantsuits and colored hose, are two examples. Although there is a gradual decrease in strict adherence to the symbolic uniform, you must still adhere to the basic principles of cleanliness to prevent disease and infections for your own protection as well as the protection of your patients.

In some agencies, particularly in caring for children or the emotionally ill, the nurses wear streetclothes or colored uniforms without the cap. Your employer has the right to establish the standards of apparel for his employees and, by accepting employment, you have agreed to accept such standards. Another point about uniforms—try to wear your uniform only to and from work, and not to the grocery store or on shopping errands. When a hospital worker wears his identifying uniform outside of the health setting it is similar to a doctor wearing his stethoscope and carrying his "black bag" to do his errands. Items used in our work often become contaminated with germs and we may carry them to the unsuspecting public when we wear our duty clothes and equipment in public places.

Nail polish is affected by some of the solvents we use and is difficult to keep undamaged and attractive. Therefore, it is usually neater and less bothersome for you if you do not use nail polish on duty.

MRS. BOYD
Nurse Assistant

Does personal grooming come under the topic of ethics?

MISS JOHNSON

I would think so. Good hygiene and careful attention to cleanliness and grooming make your patient's environment more pleasant. He surely is entitled to that. Incidentally, good grooming includes careful and minimal use of cosmetics; avoid heavy eye makeup, obvious perfumes, extremes of any sort, which are not in good taste for wear in any situation. Frequently, cosmetics have a heavy, sweet odor, which is often nauseating to an ill patient. Therefore, if you are concerned about your patient's welfare, you will refrain from excessive use of cosmetics.

MRS. BOYD

Miss Johnson, last week Mr. Goldrocks tried to give me two dollars when I finished his bathtime care. I told him I wasn't permitted to accept it. How could I have handled this situation better?

MISS JOHNSON

Did you notice in the codes of ethics we read that you are supposed to accept only the money given by your employer? Tipping to ensure service could be disastrous in a hospital, couldn't it? It would violate the fundamental concepts of ethics—respect for the dignity and basic rights of the person. How do you think you would react in such a situation?

MISS SMITH

Maybe I could let my patient know that it is my *pleasure*, not only my *job*, to assist him. I can let him know this by my attitude, and how I respond to his needs.

MISS McGUIRE

I think I might suggest that if he feels like making a cash donation, perhaps he would like to give it to the hospital fund for furnishing the new patient lounge, or whatever current project the hospital has. I think there is a difference between a patient offering me a gift or money when he first comes into the hospital, and if he leaves a handkerchief, card, or candy when he leaves. Is it unethical to accept the latter?

MISS JOHNSON

I don't think so, Miss McGuire, because if the patient has gone home he could hardly expect preferential service as a result of his gift. It would be nice, though, if you received a gift, to share it with the other team members who also cared for the patient. I guess that would be following the Golden Rule.

MRS. ACALA
Diet Assistant

Something I saw yesterday bothers me. One of the hospital workers took the dessert from a patient's tray and put it in the utility room, and later I saw her eating it.

MISS JOHNSON

Of course, we don't know all the circumstances, but taking what is not ours is stealing, and that is a violation of the law. I wonder if the worker would have openly eaten the dessert if the head nurse or hospital administrator had been present? You are not responsible for the actions of others, but by being responsible for your own actions, you set a good example for others. In some agencies, eating food from a patient's tray is considered cause for immediate termination.

MR. THOMAS

What should be done when a person observes someone violating either the law or ethical concepts; doesn't it show consent if nothing is done?

MISS JOHNSON

You are full of hard questions today, Mr. Thomas. No list of rules could be given that would fit every circumstance. Who is involved, the nature of the infraction, and the circumstances must all be taken into consideration. Sometimes it is best to speak directly to the person involved and allow him a chance to alter his behavior, and sometimes a private discussion with your superior will give you appropriate help in deciding what to do.

One of your most important legal and ethical responsibilities in a health care situation is to guard the privacy of your patient. Privacy is one of his basic rights. When a person is sick, he is dependent upon other people to do many things that he cannot do himself. He is entitled to privacy in all respects—about his condition, personal data, his illness, and everything that you might learn because he is a patient. Sometimes it is tempting when a hospital worker is “on the outside” to reveal information about patients. It is exciting to tell something nobody else knows. This is illegal in some instances, and unethical in all instances.

MRS. DEEDS Sometimes patients ask me questions when I’m cleaning their rooms. Last week one of them asked me if the patient across the hall had died. I didn’t know what to say, although I had just finished cleaning his unit after he was taken away.

MISS JOHNSON Patients are often curious about other patients, particularly about one who is very ill or who may have expired. Your ingenuity will be challenged to evade the question, and not appear rude or dishonest. How do you class members think Mrs. Deeds might have answered her patient?

MISS McGUIRE Could she have evaded answering by saying something like, “I’m not involved with assigning patients their rooms or in moving them from one room to another.”

MISS SMITH How about a simple courteous “I don’t know.”

MISS JOHNSON That could be a truthful reply, for perhaps the patient did not expire, but was moved to the intensive care unit, or to some other room.

MR. TROYLE
Maintenance Man I’m a new employee, and my neighbor was hurt in an accident and brought here. I was looking at his chart to see how he was and the head nurse jumped all over me.

MISS JOHNSON Some of you will see information on a patient’s chart. You may have reason to use the chart or see it by accident. Unless your work requires you to make notations on the chart or to use it in order to give care to the patient, do not read it or even take it from the chart rack. The chart is a legal document, belongs to the hospital, and the material in it is known as “privileged information”—that is, it is very private and is meant only for those people who need it to care for the patient. Privacy of everything surrounding the patient is his right.

Another point about privacy. It is highly unethical to discuss your patients in the cafeteria, hallways, or public places. Family and friends often overhear conversations and misunderstand what is said. Sometimes they think you are talking about their loved one or friend. Loose gossip can be very upsetting to others. Guard your conversation at all times! Discussion of your patient should be limited to those team members who assist or share in his care and then the discussion should occur in the appropriate place, so it is not overhead and misinterpreted by outsiders.

MISS BOYNE
Ward Clerk I think the topic of ethics is quite complex, but I’m glad we had this class today, because I have some guidelines to help me in my work. I’m going to try to be an ideal employee because it should help to keep me out of trouble with my employer and the law.

MISS JOHNSON No doubt that is true, but aren’t there other good reasons?

MRS. BOYD Yes, I feel good when I know I’m doing the right thing and when I have done a good job.

MISS JOHNSON

We have made quite a list of ethical guidelines today from our discussion. We can summarize by saying: Whenever you are faced with a situation involving making a moral, or ethical, decision, ask yourself these questions:

1. How will my action or choice affect the patient?
2. How will my action or choice affect my employer or co-workers?
3. How will my action or choice affect me?

If your answer to all three questions is positive, your behavior would uphold the dignity and basic rights of the patient and your employer and maintain your own self-respect, and you have probably made a sound choice.

(Let's try out our new concepts of ethics by reading the following hypothetical situations and filling in the blanks or circling the appropriate underlined word or words.)

Situation A

A patient in Room 201 is in critical condition, and although you have not cared for him, you have heard one of the other nurses mention that the doctor feels the patient will not live much longer. A relative of the patient asks you in the corridor if Mr. Brown has improved. Your answer might be: "You probably should speak to the doctor about that." Ethically, who is being considered here?

1. _____
2. _____
3. _____
4. In any situation in which the answer is not clear to you, it is appropriate to refer the question to your (*supervisor*) (*co-worker*).
5. In doing the above, you recognize your (*legal*) (*ethical*) (*both legal and ethical*) limitations.

Situation B

A young girl has been brought in by ambulance to the Emergency Room. You are the ward clerk there and note that she has swallowed a small glass of turpentine and is now having her stomach emptied of its contents. When you go to lunch, the other ward clerks want to know why the ambulance had its sirens sounding, how old the girl is, and why she was brought in. Since this was an attempted suicide, the police reporters were also in the hallway. You were the person who recorded the emergency room notes and so you have some information. When asked why the girl took the turpentine, you might answer: (Circle the letter of correct answer)

1. (A) I assume because she is pregnant and unmarried.
(B) She must have had a desire to die.
(C) This information is confidential.
2. In this situation, to discuss the patient not only violates her right to privacy, but could result in a (*legal action*) (*loss of employment*) (*both of these*).

Situation C

Carol Brown, nurse's aide, has always been conscientious and reliable in her work habits. She is scheduled to work on the weekend and receives an invitation from an old friend to spend the weekend at Yosemite National Park. Carol has never been to Yosemite and does not

often have such opportunities. She ponders long and hard before arriving at a decision. Persons considered in her decision making would be:

1. _____
2. _____
3. _____

Situation D

Mr. Grimm in Room 410 always orders his meals from the hospital's special gourmet menu. At noon on Sunday he didn't touch any of the food although the dinner was excellent. The filet and strawberry pie were indeed tempting. You are the dietary aide who is responsible for taking trays back to the kitchen. In an effort not to waste such delectable food, you decide: (Circle correct letter)

1. (A) To eat it yourself.
(B) To give it to a fellow employee who is quite needy and doesn't eat properly.
(C) To ask the dietitian to confer with the patient about ordering smaller portions.

Situation E

Your doctor has observed that you are very tense about your job as a ward clerk in the hospital unit, and has recommended a common tranquilizer for you to take three times a day. You know that often when patients go home, they leave their medications, which are then returned to the pharmacy. You ask the medication nurse if when these tranquilizers are left on a patient's discharge, she could just give them to you, saving you the expense of having your prescription filled.

1. This is a distinct breach of _____ on your part.
2. Your ethical behavior is lowered. However, if the nurse grants your request, she is prescribing or dispensing medicine without a license and this is a _____ offense.

Situation F

You are a nurse's aide and have cared daily for Mrs. Johann. She has come to rely on you and, when she is ready to go home, wants to give you a sum of money in appreciation for the "lovely things you have done for her." (Circle the correct letter)

1. (A) You must explain to her that the service is part of her care.
(B) You are paid a salary for giving service and patients pay for their care also.
(C) Accept the gift of money and tell nobody so that no one else will feel hurt that she selected only you.

Situation G

Mrs. Johann insists you must take the money or you will hurt her feelings. Therefore you: (Circle the correct letter)

1. (A) Tell her of some specific need the hospital has to which she could make a contribution.
(B) Suggest a fund in her name with suitable recognition.
(C) Accept the gift so that there are no hurt feelings anywhere in the situation.

CODE OF ETHICS FOR THE LICENSED PRACTICAL NURSE

*Adopted by The National Federation of
Licensed Practical Nurses*

The Licensed Practical Nurse shall:

1. Practice her profession with integrity.
2. Be loyal to the physician, to the patient, and to her employer.
3. Strive to know her limitations and to stay within the bounds of these limitations.
4. Be sincere in the performance of her duties and generous in rendering service.
5. Consider no duty too menial if it contributes to the welfare and comfort of her patient.
6. Accept only that monetary compensation which is provided for in the contract under which she is employed, and she does not solicit gifts.
7. Hold in confidence all information entrusted to her.
8. Be a good citizen.
9. Participate in and share responsibility of meeting health needs.
10. Faithfully carry out the orders of the physician or registered nurse under whom she serves.
11. Refrain from entering into conversation with the patient about personal experiences, personal problems, and personal ailments.
12. Abstain from administering self-medications, and in event of personal illness, take only those medications prescribed by a licensed physician.
13. Respect the dignity of the uniform by never wearing it in a public place.
14. Respect the religious beliefs of all patients.
15. Abide by the Golden Rule in her daily relationship with people in all walks of life.
16. Be a member of The National Federation of Licensed Practical Nurses, Inc., and the state and local membership associations.
17. Not identify herself with advertising, sales, or promotion of commercial products or service.

THE INTERNATIONAL CODE OF NURSING ETHICS

*Adopted by the Grand Council of Nurses of the ICN
at São Paulo, Brazil, on July 19, 1953*

1. The fundamental responsibility to the nurse is threefold: to conserve life, to alleviate suffering, and to promote health.
2. The nurse must maintain at all times the highest standards of nursing care and of professional conduct.
3. The nurse must not only be well prepared to practice but must maintain her knowledge and skill at a consistently high level.
4. The religious beliefs of a patient must be respected.
5. Nurses hold in confidence all personal information entrusted to them.
6. A nurse recognizes not only the responsibilities but the limitations of her or his professional functions; recommends or gives medical treatment without medical orders only in emergencies and reports such action to a physician at the earliest possible moment.
7. The nurse is under an obligation to carry out the physician's orders intelligently and loyally and to refuse to participate in unethical procedures.
8. The nurse sustains confidence in the physician and other members of the health team; incompetence or unethical conduct of associates should be exposed but only to the proper authority.
9. A nurse is entitled to just remuneration and accepts only such compensation as the contract, actual or implied, provides.
10. Nurses do not permit their names to be used in connection with the advertisement of products or with any other form of self advertisement.
11. The nurse cooperates with and maintains harmonious relationships with members of other professions and with her or his nursing colleagues.
12. The nurse in private life adheres to standards of personal ethics which reflect credit upon the profession.
13. In personal conduct nurses should not knowingly disregard the accepted patterns of behavior of the community in which they live and work.
14. A nurse should participate and share responsibility with other citizens and other health professions in promoting efforts to meet the health needs of the public—local, state, national and international.

WORKBOOK ANSWER SHEET

1. Ethics is a code of behavior that represents the ideal conduct for a particular group. (p. 11)
2. by the group, or lose membership in the group. (p. 12)
3. law enforcement agencies. (p. 13)

Situation A (p. 12)

1. Patient — his privacy is respected.
2. Employer or group — you are representing high ideals of confidence.
3. Yourself — self-respect is maintained.
4. Supervisor.
5. Both legal and ethical.

Situation B (pp. 12 and 16)

1. C
2. Both of these

Situation C (p. 14)

1. The patient
2. Co-workers
3. Employer
4. Herself (Any of these)

Situation D (p. 15)

1. C

Situation E (p. 13)

1. Ethical standards
2. Legal standards

Situation F (p. 15)

1. A

Situation G (p. 15)

1. A

POST-TEST

- I. True — False. Circle the letter indicating if the question is true or false.
- T F 1. All professions follow the same code of ethics.
- T F 2. Ethics applies only to the doctors and nurses who treat patients.
- T F 3. All persons who have any part in a patient's care make up the health team.
- T F 4. You enter into an agreement to follow institutional policy when you take a job with the hospital.
- T F 5. Since patients are in a dependent position, they must expect their privacy to be invaded during illness.
- T F 6. Information about patients can be discussed freely as long as it is not detrimental to their character.
- T F 7. Personal hygiene and good grooming are related to ethics.
- T F 8. Wearing the symbols of your job while shopping helps to enhance your image in the community and is therefore ethical.
- T F 9. A patient's chart is simply a convenient place for everyone caring for the patient to put notes and findings.
- T F 10. Food which has been taken into a patient's room is meant only for the patient and should never be eaten by others.
- II. In the statements below, circle the word "ethical" or "legal" to indicate what guideline or principle is being considered or violated. If both are appropriate, underline both.
- A. Mary Brown constantly comes to work in a soiled uniform which smells strongly of cigarette smoke. Ethical Legal
- B. A patient's chart is left lying open at your desk and you as the maid read it since the patient is your neighbor and friend. Ethical Legal
- C. At a party you tell about a prominent socialite who had given birth to an illegitimate child. Ethical Legal
- D. You delight the girls in the lounge with an account of the antics of a patient who was coming out of anesthetic. Ethical Legal
- E. You ask the medicine nurse to save any unused antibiotics of a certain kind for you to give your child. Ethical Legal
- F. When the returned medications are ready for Pharmacy, you carry them over yourself and take out whatever medicines you need for your own use since they will not be charged to any specific patient. Ethical Legal
- G. An elderly lady gives you \$25 when she leaves the hospital and thanks you for the extra-special way you took care of her plants and flowers during her hospital stay. Ethical Legal
- H. Because you failed to convince a wealthy gentleman not to give you a sizeable amount of money upon his discharge without causing a scene, you accept the money and give it to the supervisor who puts it in a fund for some special equipment. Ethical Legal
- I. Although your contract clearly states that your hours are from 8:00 A.M. to 4:40 P.M., you find you can get to work at 8:30 and leave shortly before 4:00 because your supervisor is away at a conference. Ethical Legal

- J. A discharged patient leaves a lovely dinner ring in the bedside table. You find that it just fits you and slip it into your pocket while cleaning the room.

Ethical Legal

III. Fill in the blanks indicated.

- A. Ethics is a code of _____ for a _____ group representing ideal _____.
- B. Having to rely on another person for help or support of any kind makes a person _____.
- C. Breaking an obligation or contract, or an infraction of behavior is often called a _____ of ethics or contract.
- D. A commonly used word for "die" in hospital usage is _____.
- E. Another word for something which is not simple but complicated is _____.
- F. Rules designed for the promotion of health and good grooming are collectively called _____.
- G. Behavior which is unethical may result in _____ from the group.
- H. Ethics involve moral decision and a knowledge of the difference between _____ and _____.
- I. Ethical conduct always respects the basic _____ of the patient.
- J. My hospital conduct involves myself, my employer, co-workers, and the _____.

POST-TEST ANNOTATED ANSWER SHEET

- I. 1. F (p. 12) 6. F (p. 16)
2. F (p. 12) 7. T (p. 15)
3. T (p. 12) 8. F (p. 14)
4. T (p. 12) 9. F (p. 16)
5. F (p. 16) 10. T (p. 15)
- II. A. Ethical (p. 16)
B. Ethical (p. 16)
C. Ethical, Legal (p. 16)
D. Ethical (p. 16)
E. Ethical, Legal (p. 16)
F. Ethical (p. 16)
G. Ethical (p. 16)
H. Ethical (p. 16)
I. Ethical (p. 14)
J. Ethical, Legal (p. 16)
- III. A. conduct; specific; behavior (p. 11)
B. dependent (p. 16)
C. breach (pp. 11 and 13)
D. expire (p. 11)
E. complex (p. 11)
F. hygiene (p. 11)
G. discipline; expulsion (p. 12)
H. right; wrong (p. 12)
I. rights (p. 12)
J. patient (p. 12)

Unit 3

ENVIRONMENT AND THE PATIENT

UNIT 3

I. DIRECTIONS TO THE STUDENT

Please read the general and specific performance objectives, then proceed through the unit. At the completion of this lesson a written post-test will be given.

II. GENERAL PERFORMANCE OBJECTIVE

In a written test you will demonstrate your knowledge of ten environmental factors in a hospital which affect patients' comfort, recovery, and safety.

III. SPECIFIC PERFORMANCE OBJECTIVES

In a written post-test you will answer questions with at least 80 per cent accuracy about the following:

1. Definition of the terms presented in the vocabulary.
2. The responsibilities of the nurse in environmental management.
3. The desirable ranges for room temperature and humidity, and acceptable methods of modifying these conditions.
4. Correct methods of providing ventilation.
5. Ways to control offensive odors.
6. Common noises in the hospital and ways to minimize their effects on patients.
7. Methods of light adjustment.
8. Methods used to maintain patients' privacy.
9. Safety precautions used in the patient's environment.

IV. VOCABULARY

anesthesia—partial or complete loss of sensation, with or without loss of consciousness, as may result from disease, injury, or administered drug or gas.

anesthetic—an agent or drug that produces insensibility to pain or touch.

anesthetized—placed under an anesthetic.

environment—the surroundings; any condition that affects life or development.

internal environment—the fluid surrounding the body cells.

external environment—those conditions outside the body which affect it, such as temperature and noise.

emotional environment—the emotional surroundings affecting our life.

ecology—the relationship between living things and the environment.

humidity—the amount of moisture in the air.

ventilation—the movement of air.

photophobia—(fear of light) a condition in which light is painful to the eyes.

sedated—state of being calmed, usually effected by means of a drug.

V. ENVIRONMENTAL FACTORS

"Environment" is a word frequently heard in today's news media. Any condition that affects the life or development of a person is his "environment" or "surroundings."

"Ecology" refers to relationships between living things and their environment. Environmental and ecological conditions worldwide and local can affect our health and that of our patients. Radiation fallout can contaminate the local food or water supply as a result of the explosion of an atom bomb thousands of miles away. Most of us are all too familiar with an unpleasant environmental factor called "pollution." The eye and respiratory irritants in the air affect all of us.

Environmental factors are not all external, i.e., outside ourselves. In nursing, the terms "therapeutic environment" and "emotional environment" are increasingly discussed. We can be surrounded by emotional factors that are helpful or detrimental. The hospital worker is responsible for using communication skills and good interpersonal relationships to reduce tensions, anxiety, and fear in order to provide a good emotional environment for the patient.

The physician is greatly concerned with our "internal environment" or the composition and volume of the fluids that surround the body cells. Some of the skills you will need to help the patient in maintaining good internal environment are: (a) an accurate measurement of fluid intake and output, or (b) restricting salt intake.

Circle the letter or letters of the appropriate answer.

- The *interrelationship* between people and their surroundings is called:
 - external environment
 - therapeutic environment
 - ecology
 - internal environment
- A hospital worker is helping to make a therapeutic environment for the patient when she:
 - gets along well with her co-workers.
 - explains what she is going to do to the patient (to relieve his anxiety).
 - lessens a tense situation with her communication skills.
 - tells the patient her honest opinion about the patient's physician.

The rest of this lesson will be confined to those factors concerning the immediate "external environment" of patients for which the hospital team is responsible. In the modern hospital many people share this responsibility—for example, the engineers who maintain temperature through heating, cooling, and regulation of ventilation. Housekeeping personnel provide cleanliness and order throughout the building. This is a safety factor; cleanliness prevents the spread of disease-causing germs and a mopped up spill will prevent an accident.

In some hospitals the housekeepers clean and restock the patient units after each patient has been discharged. Thorough and careful technique is most important, for the patient's unit is his immediate external environment.

The nursing team has a close and continuing role in patient environment. Providing safety, privacy, restfulness, and order, as well as control of odor and noise, is a continuous process.

The maintenance crew keeps up the painting and repair of the building and equipment which is important to the patient's well-being and safety.

The entire hospital team works together to see that the patient's surroundings are *safe, clean, and comfortable*.

3. The internal environment refers to the _____ and _____
_____ of the fluids that _____ the body cells.

4. The measurement of fluid intake and output and the restriction of salt in the diet aid the physician in his management of the patient's _____
_____ environ-
ment.

5. In the following blanks, indicate a specific duty of each person which contributes to the hospital environment.

(a) Engineer: _____

(b) Housekeeper: _____

(c) Nurse's Aide: _____

(d) Maintenance: _____

6. If the entire hospital team works together, the patient environment can be:

Let's examine in detail *ten specific external environmental factors* of concern to the nurse as she provides care to her patients.

Regulation of Temperature. Temperature affects our comfort and even our disposition. A range between 68° and 72° Fahrenheit is maintained in most air-conditioned hospitals. For the nursery, the elderly, or at bath time, a slightly higher temperature, perhaps 80° F. might be required.

When the environmental temperature is high, people perspire and this cools the body by evaporation. It is therefore essential to offer additional fluids to patients (unless contraindicated) to replace the fluids lost. Remember also to replace fluids that you lose when you are perspiring heavily.

Some air-conditioned hospitals have individual controls in the patient rooms, to allow for flexibility in temperature control. When this is not available, fans, coolers, and heaters may sometimes be used. Adding an extra blanket, shawl, or bed socks can provide warmth for the patient who feels cold. Remember that the sick person may feel cold or hot even though the temperature of the room is in the so-called "ideal" range. Hot water bottles are rarely used today because of the danger of burns, especially when caring for the aged, infants, diabetics, and those with decreased feeling or sensibility, such as patients who are sedated, anesthetized or paralyzed. There are effective and safe heating and cooling devices such as the K-pad and the hypothermia machine with the hypothermia blanket, which use warmed or cooled fluids circulating through tubes in the pad. The temperature is automatically maintained by thermostats. A refreshing bath or alcohol rub may temporarily cool and refresh the patient even though the room temperature cannot be lowered.

7. A desirable temperature range for most hospital rooms is between _____
and _____.

8. Two occasions on which it may be desirable to raise the room temperature slightly are:

9. When the environment is hot and the patient perspires freely, a nursing measure to replace lost fluids is _____.
10. List three methods of providing a patient with additional warmth (a doctor's order is required for some):

11. List the three types of patients who require *very special care* if external heat is applied because they could be burned easily:
 _____,
 _____.

Humidity Control. "It's not the heat — it's the humidity," is a common expression. Humidity is the amount of moisture in the air, and a range of 30 to 50 per cent is normally comfortable. Very *low* humidity dries the respiratory passages. As the temperature increases, air can hold more water. At 50°F., saturated air holds 4.2 grains of water per cubic foot of air. At 90°F., it can exceed 14.3 grains. (A grain is a measurement of weight). This shows that nearly three times as much water is retained in the air at the higher temperature. With the air already moisture saturated, perspiration does not evaporate, and the patient loses one of his major cooling devices.

Unfortunately, there is no simple method of decreasing humidity; it has become a technical problem for air-conditioning experts and is accomplished by modern engineering methods. However, a vaporizer or humidifier is sometimes ordered for patients to *increase* humidity in some respiratory conditions.

Ventilation Control. Ventilation refers to the movement of air. Stale air can be oppressive. The use of fans increases comfort, even though the temperature and humidity remain unchanged, when the air is in motion. In home care, opening windows—top and bottom—increases circulation when the warmer air rises to be replaced by cooler air. In most hospitals unbalancing of air-conditioning is avoided by having windows which do not open.

Use *caution* to avoid a chilling draft on the patient. The use of screens between the source of cool air and the patient will prevent drafts.

12. Circle the "T" if the statement is more true than false, and circle the "F" if the statement is more false than true.
- T F (a) The higher the air temperature, the more water it can hold.
- T F (b) Evaporation of perspiration is increased in high humidity.
- T F (c) The use of a vaporizer increases humidity.
- T F (d) A humidity of 30 to 50 per cent is considered most comfortable.
- T F (e) Humidity refers to movement of air.
- T F (f) Cold air rises.
- T F (g) Circulation of air is increased if the open window and door are on opposite sides of the room.

If you are unable to answer these questions correctly, review the previous section before proceeding.

Regulation of Light in the Room. Lighting contributes to our well-being. However, some illnesses, such as measles, cause "photophobia." This is a condition in which light is painful to the eyes. Bright light must be avoided during the acute phase of measles. Also, patients who have had certain types of eye surgery must avoid bright lights.

A bright, sunny room is cheerful and can improve your patient's spirits. Adequate light

should be provided for reading, knitting, and all close work. This means a light bright enough to see without *glare* and to avoid straining the eyes. Good light is soft and diffused. It does not make sharp shadows. Overhead fluorescent lighting is generally very effective. You can check for glare by holding a pencil or similar object 4 to 6 inches above a piece of light-colored paper. If the outline is sharp, there is enough glare to be troublesome; if the outline is fuzzy and soft, glare should be no problem.

Most people prefer to sleep in dim light. Adjust the shades, blinds, and drapes to help regulate light. The use of a night-light provides safety for the person who gets up to go to the bathroom at night. This also has the advantage of permitting nursing personnel to observe the patient throughout his sleeping hours.

Use of Color in Patient Environment. Some bright colors stimulate; other colors are soothing. Many people have preference for or aversions to certain colors. The location of the source of light influences color. Decorators are aware of this, and colors in patient rooms are usually subdued pastels. In solarium and workrooms, however, bright colors may be used. It is rare now to find the cold, all-white hospital room; most have colorful bedspreads, pictures, and draperies. Many convalescent hospitals are using attractive wallpapers and color combinations to provide a cheerful, homelike atmosphere.

13. Complete the following statements:

- (a) A good light is bright enough to avoid straining the eyes in order to see, but it should be diffused or without _____.
- (b) Why is a night-light desirable in a hospital room? _____

Circle the best response:

- (c) The colors in a room (*can*) (*cannot*) affect a person who is not color blind.
- (d) Most patient rooms in hospitals have (*subdued pastel colors*) (*bright stimulating colors*).
- (e) Providing a good environment for your patients contributes to their _____, _____, and _____.

Noise Control. Noise is a negative environmental factor (one which patients frequently note and which they complain about) and can affect one's health. People who are careless or thoughtless about talking and laughing cause unnecessary noise. Voices carry loudly in corridors, which seldom have drapes or other sound-absorbing materials. Equipment and machinery (such as floor polishers and carts being rolled down hallways) are often noisy. Dropping equipment causes startling noises. Many hospitals use resilient floor materials, sound-absorbing ceilings, and plastic equipment in an effort to decrease noise. This still does not reduce the major source of noise—*people*. You can help to reduce "people noise." The hospital *should* be a place for rest and quiet.

Tact is required when one patient's radio or television is disturbing another. Skill in human relations is very important for nurses. This is a skill that you should continue to develop throughout your lifetime. It means using patience and courtesy in dealing with people.

Provision of Neatness and Order. Some people seem to thrive in clutter; others are offended by the picture that hangs even slightly crooked. The unit should be kept in sufficient order to be safe, but you must avoid imposing rigid standards on the patient who enjoys being surrounded by his possessions.

Remove soiled dishes and unused equipment promptly. Check the unit several times during your tour of duty to maintain neatness and order.

14. (a) List three common sources of hospital noise.

(b) How do you think you can best reduce undesirable noise in your hospital?

(c) By removing soiled dishes and unused equipment from the patient unit, you are maintaining _____ and _____ in his environment.

Prevention or Control of Odors. Odors can be pleasant or unpleasant. Unfortunately, unpleasant odors tend to predominate in a hospital. Illness alters our sensory perceptions. Cooking food might produce nausea rather than hunger. Some ways to reduce and control unpleasant odors are:

- A. *Dispose of refuse properly.* Dressings and refuse should be wrapped in paper or placed in a paper bag provided for the purpose. Place refuse in the proper container with a tight cover to prevent odors from escaping. Do not put such items in the patient's waste basket.
- B. *Remove old, disintegrated flowers and stagnant water* which may be a source of unpleasant odors.
- C. *Reduce offensive odors from body discharges of the sick person* by covering the bedpan, urinal, and toilet bowl. Empty and clean them promptly to prevent odors.

"Hospital Clean" should be a reality as well as an expression. Prompt and proper disposal and scrupulous cleanliness can decrease odors. Your acceptance of unpleasant patient odors such as feces, flatus, and emesis will decrease your patient's anxiety and help maintain his therapeutic environment.

- D. *Avoid being a source of odors:* Breath—avoid smoking and strong foods. Perspiration—daily bath, fresh clothes. Scents—avoid perfumes and fragrances, which can be offensive to the sick. All of these are important. The nurse with a spotless uniform and impeccable grooming inspires confidence in her patients concerning their own care.

Good ventilation and cleanliness are far more effective in controlling odors than scented air sprays and other masking devices.

15. (a) List two ways in which the patient may be a source of unpleasant odors.

(b) List two ways the worker may be a source of unpleasant odors.

(c) List two ways in which the room or hospital might be a source of odors.

Provision of Privacy. Privacy is important to the patient. Always knock gently when the door to a patient's room is closed, and identify yourself before entering. Closing the curtain around the patient's cubicle can spare embarrassment to the patient, worker, and visitors.

Hospital workers become accustomed to situations and functions that would be embarrassing to the shy or nonmedical person. A discreet withdrawal from the room provides privacy for the shy patient to perform his necessary functions such as defecation, voiding, or even washing dentures.

Visitors come to see the patient. A polite greeting and withdrawal by the worker allows privacy for the patient and his guests. Lack of privacy, like noise, is a frequent source of patient irritation. The thoughtful nurse can do much to decrease these irritations.

Provision of a Safe Environment. We have talked about SAFETY before — it was a fundamental guideline in the unit "Guidelines for Performance of Nursing Skills." Remember that safety also helps to prevent lawsuits.

Falls and burns are particular hazards in hospitals. Falls can be prevented by removing articles from the floor that might cause a patient to trip. Burns can be prevented by checking electrical equipment and other means as discussed later in this unit. Handrails and grab bars should be installed in the bathroom and in the corridors to assist the weak or debilitated patient. Siderails are a common safety device. Usually the bed is left in low position when the patient is not receiving care that requires the high position. This decreases the danger of falls. You will learn more about siderails in future units.

Mop up spills immediately. Post "Slippery" caution signs when the floor is being mopped. Usually only one side of the floor is mopped at a time, allowing half to remain dry for use.

Soft ties and other restraints may be ordered to prevent falls. These, too, will be discussed in a later unit.

Alert patients who have poor vision to prevent accidents. It is especially important that clutter, rug, and chairs be removed and that furniture remain in customary locations.

The danger of burns in hospitals is decreased by careful supervision of smoking (if it is permitted). The sedated patient may come off and drop the cigarette in the bed. The confused or irrational patient may set himself or his surroundings aflame. Oxygen use requires "No Smoking" signs and proper use of any electrical equipment nearby. Additional safety precautions are discussed in the unit on oxygen therapy.

Inspection of all electrical plugs, cords, and equipment before use can prevent accidents. Most agencies require that any electrical appliance brought in by the patient (e.g., radio or heating pad) must be thoroughly checked by the electrician to ensure their safety.

Oily rags and other combustible materials usually are stored in metal containers which have tight lids. Oxygen and other gas containers under pressure should be secured with straps or by other means to prevent falling.

Testing the temperature of solutions used for soaks, baths, irrigations, and heating devices is necessary to prevent burns. Remember that persons with diabetes, impaired circulation, those who receive drugs to reduce pain, the paralyzed, and those not mentally alert can be burned much more easily than can a person in good health.

Fire in a hospital is always a possibility; therefore, know the rules for fire safety. Generally, the agency fire regulations will be taught in the first few days of employment. Many local fire departments hold regular fire safety classes for employees in health agencies in their area. Usually these are required classes if a health agency is to receive its fire safety clearance from the fire department. Know the location of extinguishers, fire doors, etc. Many institutions have occasional fire drills. Make sure you know what to do in case of a fire or other disaster.

The alert worker anticipates hazards so that accidents can be prevented. We have discussed only falls and burns. Cuts, choking, electric shock, and drowning are other potential hazards. Prevention of accidents requires constant watchfulness by alert employees.

Some categories of patients are more likely to have accidents and injuries. Some include:

The confused: They may be elderly, medicated, or emotionally disturbed; their safety is your concern.

The elderly: They may be forgetful or have decreased sensory perceptions, i.e., dimmed vision or decreased hearing, which deprives them of some of their "danger warning" capabilities.

Children: They climb, touch, taste, and eagerly explore their environment. They need special protection to prevent their curiosity from causing injury.

Patients who are sedated with drugs or anesthesia: They need special safety measures such as siderails, straps, and close observation to provide safety.

Providing a pleasant and comfortable environment for your patient is a challenge to the hospital worker, if it contributes to his safety and recovery. Manage it with skill.

16. (a) List three ways in which you can provide privacy for your patient.

(b) Falls cause many accidents in and out of hospitals. List five ways in which you might prevent falls.

In summary, the ten external environmental factors with which you as a health worker will need to be concerned in your care of the patient are: temperature, humidity, ventilation, light, color, noise, odor, neatness and order, privacy, and safety. It is your ethical responsibility to your patient, your co-workers, your employer, and to yourself to maintain a pleasant and safe environment.

MIDDLEBROOK AND NEWELL STREET

- Item: 1. (c), ecology (p. 27)
2. (a), (b) and (c)
3. volume, composition, surround (any order) (p. 28)
4. internal (p. 28)
5. (1) air-conditioning, heating and cooling, ventilation (p. 28)
- (2) cleanliness, order, safety (p. 28)
- (3) safety, cleanliness, order, light, privacy, odor and noise control (p. 30)
- (4) painting, repairs, safety (p. 28)
6. (1) safe, clean, comfortable (p. 29)
7. 68° to 72° F. (p. 29)
8. at bedtime in the nursery and when bathing the elderly (p. 29)
9. Offer fluid to drink. (p. 29)
10. Add blankets, shawl, bed sock, & pad, hot water bottle, hypothermia machine with blanket. (p. 29)
11. diabetics, infants, aged, patients with decreased feeling or sensory abilities (p. 29)
12. (a) T (p. 30)
- (b) F (p. 30)
- (c) T (p. 30)
- (d) T (p. 30)
- (e) F (p. 30)
- (f) F (p. 30)
- (g) T (p. 30)
13. (a) glare (p. 31)
- (b) so the patient can get up safely if he is permitted; so nurses can observe him at night. (p. 31)
- (c) can (p. 31)
- (d) subdued pastel colors (p. 31)
- (e) well-being, comfort, safety, recovery (any order) (p. 31)
14. (a) people talking, equipment, dropping equipment, radio, TV. (p. 31)
- (b) Avoid loud talking; care in handling equipment; encourage others to be quiet; keep radios and TV at reasonable levels; avoid noisy activities during patient's rest periods (could be many other similar answers) (p. 31)
- (c) neatness, order (p. 31)

15. (a) discharges (feces, urine, pus, emeses), breath, perspiration, flatus, dressings, medications, and others. (p. 32)
- (b) bad breath, strong perfumes, odor of tobacco on clothes, hands on hair (p. 32)
- (c) cooking odors, improper waste disposal, lack of general cleanliness, incontinent patients who have not been kept dry and clean, use of heavy masking spray to cover odors (p. 32)
16. (a) Close door; pull screen; knock before entering; leave patient alone to use bedpan (could be many others). (p. 33)
- (b) Remove clutter; avoid scatter rugs; mop up spills immediately; post "slippery" signs when appropriate; encourage use of siderails and grab bars; use restraints when indicated; keep bed in low position; assist patients who have poor vision to walk; avoid moving furniture. (pp. 33, 34)

POST-TEST

Directions: Circle the letter in front of the correct response or responses.

1. Management of hospital environment is the responsibility of:
 - (a) the nurse
 - (b) housekeeping
 - (c) maintenance
 - (d) all of these
2. The most comfortable range of temperature and humidity in a hospital room is usually:
 - (a) 70 to 76° F., 50 to 60 per cent humidity
 - (b) 65 to 70° F., 20 to 30 per cent humidity
 - (c) 68 to 72° F., 30 to 50 per cent humidity
 - (d) 72 to 80° F., 40 to 70 per cent humidity
3. Effective and desirable methods of decreasing offensive hospital odors are:
 - (a) prompt and proper disposal of refuse.
 - (b) use of fragrant perfume by employees.
 - (c) good personal hygiene by employees.
 - (d) good ventilation.
4. Bright (non-glaring) light in the room is undesirable in or during the following circumstances:
 - (a) when the patient is reading.
 - (b) period of rest or sleep.
 - (c) some types of illness (measles, eye surgery)
 - (d) when the patient is depressed.
5. The following effects to patients can arise from noise:
 - (a) cause irritation.
 - (b) disturb sleep or rest.
 - (c) increase fatigue.
 - (d) none of these.
6. Ways to provide patient privacy include:
 - (a) the closed door
 - (b) cubicle curtain
 - (c) visitors
 - (d) withdrawal from unit by nurse

7. Ventilation means:

- (a) surroundings
- (b) moisture in the air
- (c) environment
- (d) movement of air

8. A vaporizer in the room increases:

- (a) temperature
- (b) ventilation
- (c) humidity
- (d) external environment

9. The *one* major source of noise in hospitals is:

- (a) equipment
- (b) street noise
- (c) people
- (d) elevators

10. Fill in the blanks:

Safety is a fundamental responsibility for all hospital personnel. A safe environment is especially needed by certain categories of patients who cannot regulate their own environment. List four of these:

- (a) _____
- (b) _____
- (c) _____
- (d) _____

POST-TEST ANNOTATED ANSWER SHEET

UNIT 3

1. (d) (p. 28)
2. (c) (p. 29)
3. (a), (c), (d) (p. 30, 32)
4. (b), (c) (p. 30)
5. (a), (b), (c) (p. 31)
6. (a), (b), (d) (p. 33)
7. (d) (p. 30)
8. (c) (p. 30)
9. (c) (p. 31)
10. (a) infants and children
 - (b) aged
 - (c) mentally confused
 - (d) sedated or anesthetized, or unconscious, blind, deaf, paralyzed (could be others) (p. 34)

GUIDELINES FOR PERFORMANCE OF NURSING SKILLS

I. DIRECTIONS TO THE STUDENT

Please read the General and Specific Performance Objectives carefully.

II. GENERAL PERFORMANCE OBJECTIVE

You will demonstrate your knowledge of the guidelines for performing a nursing skill in a written test using questions representing patient situations.

III. SPECIFIC PERFORMANCE OBJECTIVES

In a written post-test of patient-situation questions, you will answer with at least 80 per cent accuracy questions about the following:

1. Given a nursing task to perform, you will recognize and apply legal and ethical concepts for the safety of the patient, worker, and employer.
2. You will communicate with the patient, co-workers, and others in such a manner as to make the task safe and effective.
3. You will apply the principles of biological and physical science that make the task safe and effective.
4. You will *prepare* to perform the task using the following criteria to evaluate the task:
 - A. Condition of the patient.
 - B. Abilities and limitations of the student.
 - C. Environmental factors that could help or hinder performance.
5. You will *implement* the nursing task using the following guidelines:
 - A. Preparing the patient physically and mentally.
 - B. Preparing the equipment needed.
 - C. Performing the task utilizing applicable principles from biological and physical sciences.
 - D. Performing follow-up care of the patient.
 - E. Performing follow-up care of the equipment.
 - F. Reporting and/or recording accurately and appropriately.

6. You will evaluate the outcome of the task by answering the following questions:
 - A. Did the task accomplish the intended purpose?
 - B. Was it performed safely?
 - C. Was it performed in a manner economical of time, effort and supplies?

IV. VOCABULARY: None

V. CASE PRESENTATION

The call light is flashing at Room 212. You are about to answer it. This is your sixth week as a student in a combined Nurse Aide-LVN class at the local community college. The four hours a day you spend at Hills Memorial Hospital as a student fly by as you perform your duties.

Who is the patient in Room 212 and how can I help her? It may be Mrs. Mary Jones in bed "C" who is the reason for the flashing red light. You observe that the top bedding is pushed back, revealing a very damp drawsheet. This is your chance to be a "good nurse." Of course, you can change a drawsheet in no time at all;

but wait—

Mrs. Jones is a 76-year-old lady who is confused. She is partially paralyzed from a stroke, and she weighs 198 pounds! Are you still confident?

Try this—

Just suppose she is another Mrs. Jones, *not* the 198-pound lady at all. Instead, she is a 32-year-old housewife with a ruptured stomach ulcer who is getting a blood transfusion and oxygen, and has a tube in her nose leading to the stomach and connected to a suction device. Her anxious family clusters about the bed. Remember—all she needs is a dry drawsheet and, of course, you can provide that!

—Or can you?

Don't give up. Room 212 "C" might be Mrs. Jones who is a 22-year-old new mother who speaks only Spanish. She will be going home within the hour, taking that adorable "blue bundle" from the nursery. Of course, you can handle *this* one—Just whisk off the wet sheet and pop on a clean dry one tight enough to satisfy old Miss Instructor.

You get the idea: It's not simply a matter of changing a drawsheet—these people have needs which require you to *plan* what to do and how to do it.

A. Circle the number of the *best* answer.

In order to perform even the simplest nursing skill you need to:

- (1) Plan *what* to do.
- (2) Plan *how* to do it.
- (3) Consider the individual needs of the patient.
- (4) All of these.

VI. GUIDELINES

To help you plan when you are confronted with any nursing situation, consider these guidelines:

ethical too; no problem here. Remember, non-professional health workers assist with care of seriously ill patients under supervision. Be sure you understand your role in performing even a simple task for a patient like our critically ill Mrs. Jones. In your role as a beginning practitioner, you can legally perform those jobs you have been trained to do according to your job description.

Safety. Always *think* safety. Plan safety. Anticipate safety for the patient, for you, for everyone. That wet drawsheet placed on the floor could be a safety hazard to the little old lady walking with crutches. If it were placed on the overbed table it *could* be a safety problem with those germs left behind.

Circle the best answer, or fill in the blanks.

- B. When a worker is careful to work within her legal limitations, she protects:
- (1) herself.
 - (2) the employer.
 - (3) the patient.
 - (4) all of these.
- C. The non-professional health worker _____ with the care of the seriously ill patient under _____.
- D. Mrs. Jones, your patient, asks you, "What laxative would you recommend, nurse?" You *(could)* *(could not)* tell her because it is *(unethical)* *(legal)* *(not legal)* for a nurse to prescribe. (You should follow-up on why she asked and communicate this to your team leader who can see that her needs are supplied through proper channels.)
- E. Remember the Mrs. Jones with the stroke? After changing her drawsheet, you make sure that the siderails were in place because nurses must provide _____ for their patients.
- F. List four potential causes of accidents which the hospital worker should try to prevent.
- _____
- _____
- _____
- _____

Purpose. When you perform a task, it should accomplish its purpose. (Smoothing the top of the bed won't help if it's the drawsheet that needs changing.)

Economy of Time, Effort and Expense. There's that budget again. But planning is especially helpful here. "Economy" means not wasteful. Forgotten linen is wasteful of time and effort spent in an unnecessary trip to the linen room. Careless handling of equipment causes unnecessary expense. Using supplies for a purpose not intended can be uneconomical, e.g., wiping up a spill on the floor with a wash cloth rather than a rag.

- G. The purpose of all your planning and implementing the plan is to accomplish the _____.
- H. Proper planning in nursing care can save: _____, _____ and _____.

Planning. Nursing is a challenge because no two situations are the same. The nurse must constantly plan, then implement (put into effect) and evaluate (judge) her actions. One very important tool to accomplish this is communication.

Communication may be verbal (talking and listening) and non-verbal (facial and body expressions and movements). Communication is used in planning, implementing, and evaluating each nursing skill. For example: Do you understand exactly what is expected of you? Tell your superior if you have doubts about your ability to perform the task. Communicate with the patient and his family; this may decrease fear.

Encourage the patient to participate. Let him know what is expected of him. (Keep in mind those legal and ethical limitations in communications.) You communicate with the other concerned members of the health team when you *report* and *record*.

Communication occurs through the knowledge gained in the classroom, ward, conferences, and from reading and experience. It should be applied to your performance skills; this helps you develop in your vocation. Skills are improved by constantly applying theory to the nursing situation; e.g., when doing research in the library on an assigned subject, preparing for or participating in a patient care conference, explaining to the patient what you are going to do. You applied your knowledge of physical science when you used leverage in turning Mrs. Jones. Those principles learned in microbiology made your nursing care safer when you avoided contact between your uniform and the soiled drawsheet. In pulling the drawsheet tight to make Mrs. Jones comfortable, you applied theory from your nursing classes: in the task of moving and turning the patient; in bed making; in prevention of decubiti; in good body alignment.

- I. Patient care involves communication. Communication may involve: (Place a checkmark before each correct answer)

- (1) ____ Team leader
- (2) ____ The patient
- (3) ____ The patient's family
- (4) ____ The chart

- J. List three common ways you communicate.

Assessment. Let's get back to *planning*. Some factors you will need to consider in assessing the patient (determining what he can do) are these: condition of patient; size of patient; patient's ability to assist; patient's ability to hear; patient's ability to understand our language. (Remember the three different Mrs. Joneses.)

After assessing the patient, assess yourself: Is this task within the personal capacities of my training, policy, physical skills? Should I get assistance? Do I need some special equipment? (You would need help in changing the drawsheet on two of our Mrs. Joneses.)

Last, assess the environment. Will I have to move some equipment? Should I modify the temperature of the room? What are the provisions for privacy? Safety? (Changing the drawsheet would disturb the oxygen tent of the critically ill Mrs. Jones.)

These questions refer to changing the drawsheet for the Mrs. Jones who has the tubes, suction equipment, oxygen tent, and visitors.

- K. The presence of the oxygen tent and the location of the equipment affect the procedure of changing the drawsheet. You determined this when you _____ the _____.

- L. As a student who has been in school for six weeks, you determined the need for assistance in changing the drawsheet when you assessed _____.

- M. In turning Mrs. Jones, taking care not to disturb the tubes in her nose, you had _____ the condition of _____.

Implementation. After *planning* comes *implementation*, or putting your plan into action. Our guidelines for this are as follows:

Step 1. Prepare the patient. Let him know what is expected. This helps prevent fear. Provide for his safety. Pulling the curtain or closing the door provides for privacy.

Step 2. Prepare the equipment. Inspect equipment for breaks, wear, etc. (safety). Collect as much as is practical at one time (economy of time). Remember, the patient comes first—it is poor planning to bring the bath water in at the same time as the linens because it would get cold before the bedding was removed and before you are ready to bathe the patient.

Step 3. Perform the task. Some of your tasks will have been taught in great detail. Every accredited hospital has a procedure manual that can serve to help you review if necessary. Your team leader is available for help and guidance. Strive for the minimum amount of time, effort, and expense which provides safe care.

Step 4. Follow-up care of patient. Provide cleanliness, give explanations, and take safety measures as indicated. Siderails up? Call bell handy? Necessary personal items within reach? It is best to provide for your patient *before* caring for the equipment—remember, people are more important than things.

Step 5. Follow-up care of equipment. Proper care of equipment can prevent the spread of infection (safety). Many items commonly used in the hospital are disposable. It is more economical to replace them than to clean and sterilize them. Items should be stored in the proper place and carefully marked with the patient's name (economy); e.g., it is unfair that the patient be asked to pay for a second irrigation tray because the trays in the room are unlabeled and therefore unsafe to use. (You may not be sure which patient had previously used the equipment.)

Step 6. Report and/or record. Reporting and recording are most important. They help provide continuity of care when you are off duty. They fulfill legal requirements and provide a word picture of the patient's progress from the nursing viewpoint. The chart is a legal record. Your recording should be *accurate, concise, and appropriate*.

Summary. Let's summarize the steps in performing a given task:

1. *Prepare the patient.* This means communicating with him before beginning.
2. *Prepare the equipment* to save time and effort.
3. *Perform the task* using the techniques acceptable to your institution.
4. *Follow-up care of patient* for his comfort and safety.
5. *Follow-up care of equipment:* proper labeling, cleaning, or disposal.
6. *Report and record.*

N. Place the numbers 1 through 6 in the blanks in the usual order of the steps for performing a nursing task.

____ Follow-up care of equipment.

____ Report and record.

____ Prepare patient.

____ Explain procedure to patient.

____ Follow-up care of patient.

____ Performing the procedure.

O. Fill in the blanks. In explaining what you are going to do to your patient and in

____ and _____, you are using
_____ skills.

Now that the planning and implementation are complete, let us consider *evaluating the outcome*. In doing this, we might ask ourselves three questions:

1. Did you accomplish the purpose of the procedure? (Changing a wet drawsheet)

2. Was the procedure carried out with safety:

(a) *Safety for the patient?*

For Mrs. Jones with the ruptured stomach ulcer, it would mean not disturbing the drainage tubes; or managing the canopy of the oxygen tent to avoid losing oxygen; or avoiding moving her in such a manner as to increase bleeding. (These are reasons why you would work under the close supervision of your team leader in this situation.)

(b) *Safety for the worker?*

In moving the paralyzed, 198-pound Mrs. Jones, you might need assistance to reduce the risk of injuring yourself and to apply techniques of proper body alignment, balance and movement.

(c) *Safety for others?*

You will recall from the handwashing unit that proper disposal of the soiled drawsheet and careful handwashing prevent spread of germs that might cause infection of others.

3. Did you practice economy of time, effort, and money?

Taking all needed supplies at one trip means economy of time and effort, i.e., you took only what was needed and did not waste supplies—this showed economy of expenses.

As a beginning health worker, you will constantly be faced with changing situations. This is what makes nursing interesting. Skills can be learned and improved. This lesson has provided some principles or guidelines that can help you whenever the call light flashes and you go to help many Mrs. Joneses.

In summary, we have discussed the following guidelines which will assist you in making your work easier as well as more efficient:

1. Plan your work.
2. Consider the legal and ethical implications.
3. Practice economy of time, effort, and expense.
4. Practice good communication.
5. Assess the patient, yourself, and the environment to determine your course of action.
6. Implement your plan:
 - A. Prepare the patient.
 - B. Prepare the equipment.
 - C. Perform the task.
 - D. Give follow-up care to the patient.
 - E. Give follow-up care to the equipment.
 - F. Report and record.
7. Evaluate the outcome of the action:
 - A. Safety for the patient, worker, and others.
 - B. Was the purpose accomplished?
 - C. Were you economical (time, effort, and expense)?

If you believe you understand the guidelines which have been discussed, ask your instructor to allow you to take the post-test.

WORKBOOK ANSWER SHEET

- A. (4) (p. 42)
- B. (4) (p. 43)
- C. assists; close supervision (p. 43)
- D. could not; not legal (p. 43)
- E. Safety (p. 43)
- F. Falls, burns, electric shock, drowning, choking, medication for wrong patient, etc. (any order or any similar list) (p. 43)
- G. intended purpose (goal of the action) (p. 43)
- H. time, expense, effort (p. 43)
- I. Checked all blanks (p. 44)
- J. verbal; non-verbal (gestures); expressions (p. 44)
- K. assessed the environment (room) (p. 44)
- L. Your own physical skills (self) (p. 44)
- M. assessed; the patient (p. 44)
- N. 5 - Follow-up care of equipment
 - 6 - Report and record
 - 2 - Prepare patient
 - 1 - Explain procedure to patient
 - 4 - Follow-up care of patient
 - 3 - Performing the procedure (p. 45)
- O. Reporting and record (communication) (p. 44)

POST-TEST

Please read the following carefully.

Mrs. Anders is a 72-year-old blind woman in Geriatric Convalescent Hospital, who has recently undergone surgery for a fractured hip and has dressing on the operative area. She has been admitted from the acute hospital for convalescent and rehabilitation care. She is one of your patients to care for during your clinical assignment.

The following questions pertain to this case situation:

1. As you assist Mrs. Anders with her oral hygiene she tells you, "Get out my laxative pills from my overnight bag, please." Your best response would be: (Select one)
 - _____ (a) Comply graciously.
 - _____ (b) Explain that dependence on laxatives is harmful.
 - _____ (c) Offer to get her another more effective laxative.
 - _____ (d) Relay Mrs. Anders' request to your team leader, assuring Mrs. Anders that you will tell the nurse that she wishes a laxative.
2. The principle in this situation is: (it is legal) (not legal) (ethical) to give any medication not ordered by the physician.
3. It is time for Mrs. Anders' bath. Place the number "1" in front of the activity that you would perform first. Place the number "2" in front of the activity you would do second, and so on, to the last activity.
 - (a) _____ Take out the soiled linen.
 - (b) _____ Get help to turn Mrs. Anders.
 - (c) _____ Remove top bedding.
 - (d) _____ Put on bath blanket.
 - (e) _____ Bring in necessary clean linen.
 - (f) _____ Get bath water.
 - (g) _____ Pull curtain about 180°.
 - (h) _____ Explain what you are going to do.
 - (i) _____ Get the patient's mouth and throat thoroughly swabbed, pulled clean, etc.
 - (j) _____ Turn off bedside lamp.
 - (k) _____ Report that Mrs. Anders has a reddened area on unoperated hip.
4. By reporting the reddened area to the team leader and charting accurately about it, you are: (May be more than one correct response.) Place X in appropriate blanks.
 - (a) _____ Communicating.
 - (b) _____ Carrying out a legal obligation.
 - (c) _____ Providing safety for the patient.
 - (d) _____ Making use of your theoretical nursing knowledge.

5. You took all of the supplies needed for the bath and linen change. In addition, you took two extra sheets to hide in the closet as the linen supply is often low and you are going to be sure your patient has what she needs. This is being economical of: (Circle letter of best answer)
- (a) Time
 - (b) Effect
 - (c) Supplies
 - (d) All of these
 - (e) None of these
 - (f) "b" and "d" only
6. You requested assistance from a classmate to turn Mrs. Anders carefully when you make the bottom of her bed. In getting assistance you recognized your:
- (a) Legal responsibilities
 - (b) Ethical responsibilities
 - (c) Personal limitations
 - (d) All of these
7. In turning off the cooler before giving the bath, you were acting upon your assessment, the _____, of the room for Mrs. Anders' comfort and safety.
8. Placing the soiled dressing from her operated hip in a paper bag and disposing of it promptly in the covered receptacle in the utility room helped to prevent spread of germs. This is an application of the theory of (biology) (social science) (physical science). It also was part of the follow-up care of _____.
9. Mrs. Anders' daughter tells you, "I'm so glad when you take care of mother. The other nurses seem so uninterested and hurried." Your reply must be careful and tactful to avoid contradicting her yet you want to increase confidence in your hospital and employees. A good answer would show your skill in:
- (a) Legal aspects of nursing
 - (b) Ethics in nursing
 - (c) Theory of nursing
 - (d) "b" and "c" only
10. After completing the bath you performed the following actions. Place an "X" in front of each one that contributed to Mrs. Anders' safety.
- _____ (a) Attached the call bell near her right hand and had her locate it.
 - _____ (b) Placed the bed in low position.
 - _____ (c) Left the siderail down so she could get up to the bathroom by herself.
 - _____ (d) Cleaned and filed her fingernails.
11. The guideline you would be using in putting up the siderails or placing the call bell within reach of the patient would be: _____

12. After completing a nursing task, it is helpful to ask yourself three questions in order to evaluate yourself. These three questions are:

- (a) _____
- (b) _____
- (c) _____

12
13
14
15
16

POST-TEST ANNOTATED ANSWER SHEET

1. (d) (p. 42)
2. Not legal (p. 43)
3. a. 10
b. 9
c. 6
d. 7
e. 4
f. 8
g. 5
h. 3
i. 1
j. 2
k. 11 (p. 45)
4. Mark all four blanks (pp. 43, 44)
5. (f) (p. 43)
6. (d) (p. 44)
7. environment (p. 44)
8. biology; equipment (pp. 44 and 45)
9. (d) (p. 43)
10. (a); (b) (p. 43)
11. the safety factor in follow-up care (p. 45)
12. (a) Did I accomplish the purpose?
(b) Was the procedure safe for everyone?
(c) Did I economize in time, effort, and expense? (p. 45, 46)

Unit 5

BODY ALIGNMENT, BALANCE AND MOVEMENT FOR HEALTH WORKERS

Part I

I. DIRECTIONS TO THE STUDENT

Please read the following paragraphs carefully. They will tell you exactly what you will be expected to know and do at the end of this lesson. You will need the following items:

1. The pre-test for this lesson (page 69).
2. This workbook and a pen or pencil.
3. The post-test which is to be taken at the end of the lesson.

Take the pre-test before you begin the lesson. Correct the test. If you did so well on the pre-test that you believe you would be wasting your time studying this material, discuss this with your instructor, who may allow you to proceed directly to the performance and written post-tests. All students are expected to demonstrate accurately the skills required on the performance test and to demonstrate understanding of the principles of body alignment, balance, and movement.

II. GENERAL PERFORMANCE OBJECTIVE

You will demonstrate your knowledge of good body alignment, balance, and movement by a performance test and a written test.

III. SPECIFIC PERFORMANCE OBJECTIVES

After you have completed this lesson, in the skill laboratory without reference to any source material you will be able to:

1. Position your body in alignment and balance, and state the reason for the position of your feet, knees, buttocks, abdomen, thorax, and head, according to the standards outlined in this lesson.
2. Demonstrate accurately the body movements of flexion, extension, hyperextension, adduction, and abduction, and describe the movements using terms given in the vocabulary and in the lesson.
3. Answer with at least 85 per cent accuracy in the written post-test questions about the following:
 - a. The vocabulary presented in the lesson.
 - b. Principles of good body alignment as presented in this lesson.
 - c. Principles of good body balance as presented in this lesson.
 - d. Effects of physical forces of gravity.

IV. VOCABULARY

abdomen—part of the trunk between the chest and the pelvis.
 abduct—to move a body part away from the midline of the body.
 adduct—to move a body part toward the midline of the body.
 antagonist—one of a pair of muscles having an action *opposite* that of the other muscle of the pair.
 anterior—front side.
 balance—the action of becoming stable, fixed.
 body alignment—the relationship of each movable body segment to the other segments so that no undue strain is placed on the skeleton or muscles.
 buttocks—the rounded prominences formed by the gluteal muscles; the seat, or rump.
 circulatory system—the body system which includes the heart, blood, and blood vessels.
 “corset muscles”—the layers of abdominal muscles which support the abdominal and pelvic organs.
 digestive system—the body system which includes the mouth, stomach, and intestines.
 endocrine system—the body system composed of the ductless glands such as the thyroid, pancreas, and adrenals.
 extension—the movement that widens the angle between two adjoining parts, or brings two parts into or toward a straight line.
 extremities—the limbs of the body.
 flexion—the movement that narrows an angle between two adjoining parts, or the act of bending.
 glucose—a simple sugar used by body cells for energy.
 gluteal muscles—thick posterior muscles which form the buttocks.
 gravity—a force that pulls toward the earth.
 hamstring muscles—strong flexor muscles located on the posterior part of the thigh.
 hormones—powerful chemicals formed by endocrine glands which regulate many body processes.
 hyperextension—increasing the angle of a joint beyond its normal range.
 intervertebral disc—a cartilage found between most vertebral bones which acts as a cushion.
 joint—the juncture or meeting of two or more bones.
 lateral—pertaining to a side.
 ligament—a tough band of tissue that attaches bone to bone at a joint.
 oxygen—a colorless, odorless gas forming approximately one-fifth of the content of air.
 pelvis—a basin-shaped structure of bones at the lower end of the trunk of the body which contains in its cavity the organs of the lower portion of the abdomen.
 posterior—the dorsal or back portion of the human anatomy.
 quadriceps femoris—the strong extensor muscles located on the anterior side of the thigh.
 stability—quality of balance, firmness; not having tendency to tip or fall.
 thorax—the chest portion of the body.
 trunk (torso)—the body, not including the head and extremities.
 urinary system—the body system which includes the kidneys, ureters, bladder, and urethra.
 vertebral column—the spinal column of vertebrae, the backbone.

This may seem like a very large vocabulary to you, although you probably already know some of the words and understand their meaning. It may help if you pick out some of the words that go together and list them, then check to see if you know their meanings. How about listing the following?

1. Systems of the body.
2. Movements of body or joints.
3. Names of muscle groups.

ITEM 1. INTRODUCTION TO BODY MOVEMENT

Hospital workers are very active people. In performing their work, they use a variety of movements as they reach, lift, carry, push, pull, stoop, sit, stand, and walk. Your activities will require that you, too, use these movements as you reach for linen from a shelf, lift and carry objects, push wheelchairs or stretchers, stoop to pick up objects from the floor, walk, or stand at a bedside.

All of us have been performing these movements most of our lives, so why do we single them out for consideration now? What is the point? The answer is that with knowledge of proper body alignment and movement (a) your work may be easier, (b) you may prevent injury to yourself and your patient, and (c) you will present a more attractive appearance as you work. Without the knowledge of *proper* body alignment, balance, and movement you may not apply the principles in your nursing activities and consequently suffer an injury. We want you to be conscious that you are using proper body alignment for yourself and the patient at all times, that you know how to balance yourself correctly, and that you avoid strain or injury to yourself.

One of the common injuries to hospital workers is severe muscle strain, usually of the lower back, although it may occur in the shoulders or the abdomen. Low back *strain* is painful; it takes time to recover. It may require hospitalization, bed rest, or traction; it is costly in lost salary and medical fees; and *it is preventable*. Low back strain and other muscle strains are a result of improper body alignment, loss of balance, or poor body movements.

Your employer and your co-workers prefer you to be a healthy worker rather than a patient with a preventable injury. The knowledge and use of proper body alignment, balance, and movement will help you to prevent injury to yourself.

Please complete the following:

A. List five movements that you might perform in your daily hospital work.

- (1) _____ (2) _____ (3) _____
(4) _____ (5) _____

B. Give three reasons for using good body alignment, balance and movements.

- (1) _____
(2) _____
(3) _____

C. Circle the best answer:

- (1) Low back strain is a (*fairly common*) (*uncommon*) injury among hospital workers.
(2) Severe muscle strain is the result of (*lifting a heavy object*) (*someone else's carelessness*) (*poor body alignment or movements*).

D. If you suddenly sustained this type of injury (low back strain) and were hospitalized, how do you think this might affect the work load of your co-workers? _____

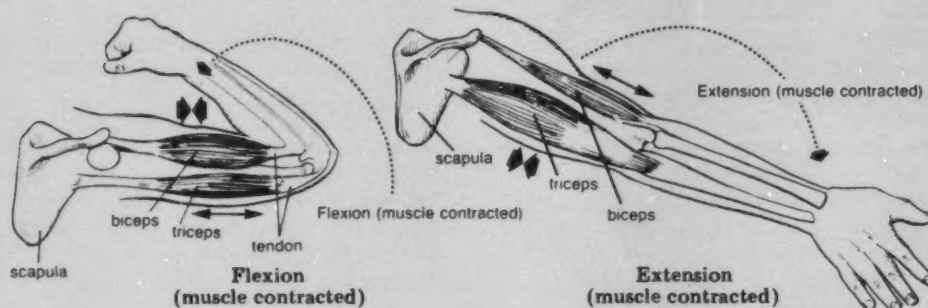
ITEM 2. SYSTEMS INVOLVED IN BODY MOVEMENT

Let's take a brief look at this wonderful and complex body of ours. This will help you understand how to align and balance your body in order to perform body movements safely.

The skeletal system forms the bony framework of the body. The bones and joints are the important parts of the skeletal system. The point where bones come together is called a joint, and it is the joint that allows the movement of the body.

Bones cannot move by themselves. Muscles attach to bones and are usually found in pairs that work opposite one another. If one muscle flexes or bends a joint, the other muscle can extend or straighten that joint. When the muscle *contracts*, or shortens, it pulls one bone

toward the bone on the other side of the joint.



These two body systems (the skeletal bones and the muscles) are often considered together and are referred to as the musculoskeletal system. In the next item, you will learn more about this system.

The brain, spinal cord, and nerves produce and conduct electrical energy impulses that allow the muscles to work in a smooth, coordinated manner. Muscles cannot function without this stimulation, or *innervation* from the nervous system. The energy (or the fuel) used by the muscles is a simple sugar called *glucose*. The digestive system breaks down the food that we eat into simpler substances such as proteins, fats, and sugars, including glucose. In the digestive system, these substances are prepared to be absorbed into the blood stream.

The heart pumps the blood through a vast system of tubes called blood vessels, and the blood carries the glucose and other vital substances to the muscles and other body tissues where they are absorbed by the cells. Oxygen is needed by the cells to convert, or change, the glucose to energy. Air that we breathe contains about 20% oxygen. The air is inhaled into the lungs where the oxygen passes through very thin air sac walls and is absorbed into the blood stream. The blood is then pumped throughout the body to deliver the oxygen to the cells.

When glucose is converted into energy by the body cells, not all of the substance becomes energy; some remains as waste material, like wood when it is burned and converted to heat (energy). The waste product of glucose is ash. When muscles have been used strenuously, much waste material collects around the muscles, which can slow down the functioning of the muscle. The waste material is absorbed into the many tiny blood vessels located throughout the muscle. These small vessels merge into larger vessels that take the blood to the kidneys where the waste products are filtered out and eliminated from the body as urine.

There is one more body system that is important in providing movement—the endocrine glands. There are seven types of endocrine glands. You may already know some of them. They are the thyroid, parathyroid, pituitary, adrenals, thymus, pineal, and finally gonads (ovary or testicles). Each gland makes one or more powerful hormones which enter the blood stream directly from the gland. These hormones regulate many of the body's activities, including that of muscle action.

Do you see why we said that your body is very complex? Even the simple movements of reaching, standing, walking, pushing, and pulling require that many systems of your body work together in harmony.

Circle the appropriate number or numbers of your answer(s) to the following questions.

E. We could not align and balance and move our body without using the:

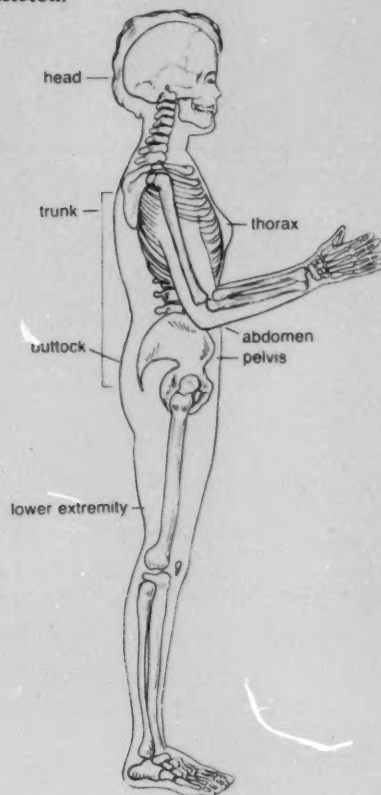
- (1) muscular system
- (2) skeletal system
- (3) nervous system
- (4) respiratory system
- (5) all of these

- F. Muscles need fuel to provide energy for contraction. Which statements correctly describe the nature of the "fuel" used by the body?
- (1) Energy is provided by the simple sugar called glucose.
 - (2) The fuel is delivered to muscles by the circulatory system.
 - (3) The fuel comes from waste products carried in the blood.
 - (4) Oxygen is needed in order to release the fuel's energy.
- G. The glands which produce powerful chemicals that help to regulate body functions form the:
- (1) digestive system
 - (2) endocrine system
 - (3) nervous system
 - (4) none of these

ITEM 3. THE MUSCULO-SKELETAL SYSTEM

If the framework of a building should sag, the whole building would sag, be less sturdy and strong, and appear less attractive. Just so with the body. Since the skeletal system—i.e., the bones and joints—makes the body framework, it needs to be in good alignment. Good alignment reduces sagging.

The major movable body parts, called segments, are the *head*, the *trunk*, and the *extremities*. Each of these segments has subparts. These are shown in this picture of the skeleton.



Some of the subparts of the *head* are the jaw and neck.

Some of the subparts of the *upper extremities* are the shoulder, upper arm, forearm, and hand.

The subparts of the *trunk* are the thorax or chest, abdomen, pelvis, back, and buttocks.

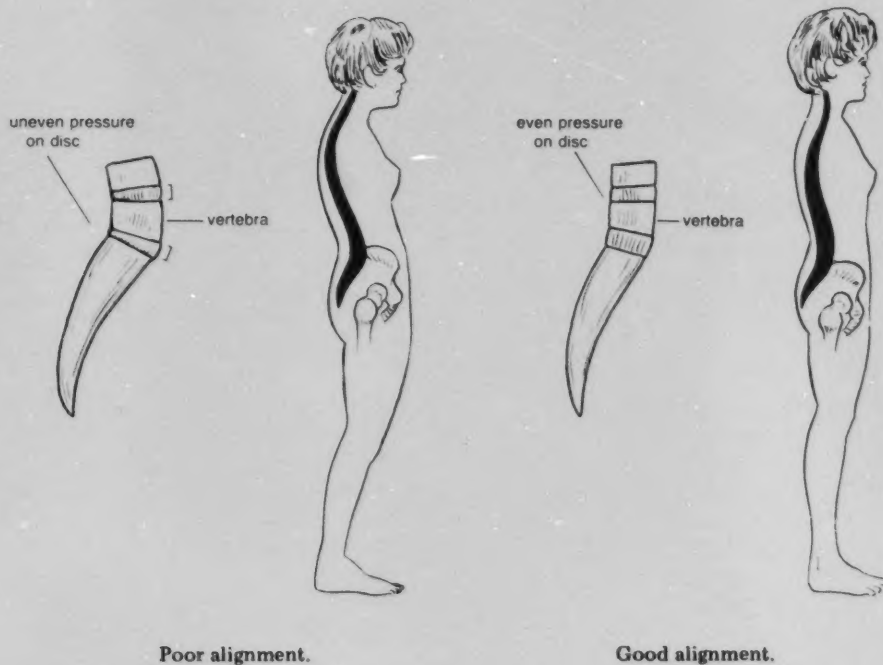
Subparts of the *lower extremities* include the hip, thigh, leg, and foot.

When we describe body surfaces or locations, we use terms that were included in your vocabulary: *Anterior*, *posterior*, *lateral*, *midline*. You will need to learn these words and what they mean because they will be used frequently in many of your assignments and in your clinical experiences. *Anterior* refers to the front surface of the body or its parts. *Posterior* refers to the back surface of the body or its parts. *Lateral* refers to either side of the body or its parts. *Midline* refers to an imaginary line that divides the body or its parts into right and left halves.

Bones are held together by tough bands of tissue which are called *ligaments*. Muscles are attached to bones by other strong bands of tissues called *tendons*. When the body parts are in proper relationship to each other, each movable segment is aligned so that the least amount of strain is placed on these tendons, ligaments, muscles, and joints. Each part should be able to perform its intended function efficiently.

The backbone, which is also called the vertebral column or spine, is not really just a "bone." The vertebral column is a series of bones, or *vertebrae*, that supports the head on the upper end, provides the attachment for the back of the ribs, and joins with the pelvic bones near its lower end. The vertebrae also encase the spinal cord which is composed of nerves going to and coming from the brain.

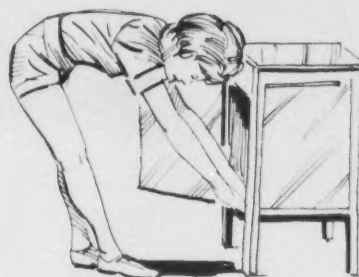
Between each vertebra there is a cushion of cartilage called an *intervertebral disc*. These discs serve as shock-absorbers and decrease the jolting effect of the body movements. When the vertebrae are in good alignment, the pressure of the bones is more evenly distributed on the discs. Prolonged or severe and uneven distribution of pressure may cause the discs to become damaged.



This long, bony spinal column is most important in attaining proper body alignment and safe movement. The muscles that move the vertebral column are small and not very strong. They provide great flexibility of movement, but are not designed for the heaviest work. The longer, thicker, and stronger muscles used for more strenuous work are found in the shoulder, upper arm, hip, and thigh. A rule in body function is this: *Structure determines function*. As an example, to raise an object you should stoop with your back straight. Use your strong thigh muscles to rise to a standing position, instead of bending with knees straight and back bowed.



Correct alignment.



Incorrect alignment.

H. Place the letter from the right hand column in the appropriate blank.

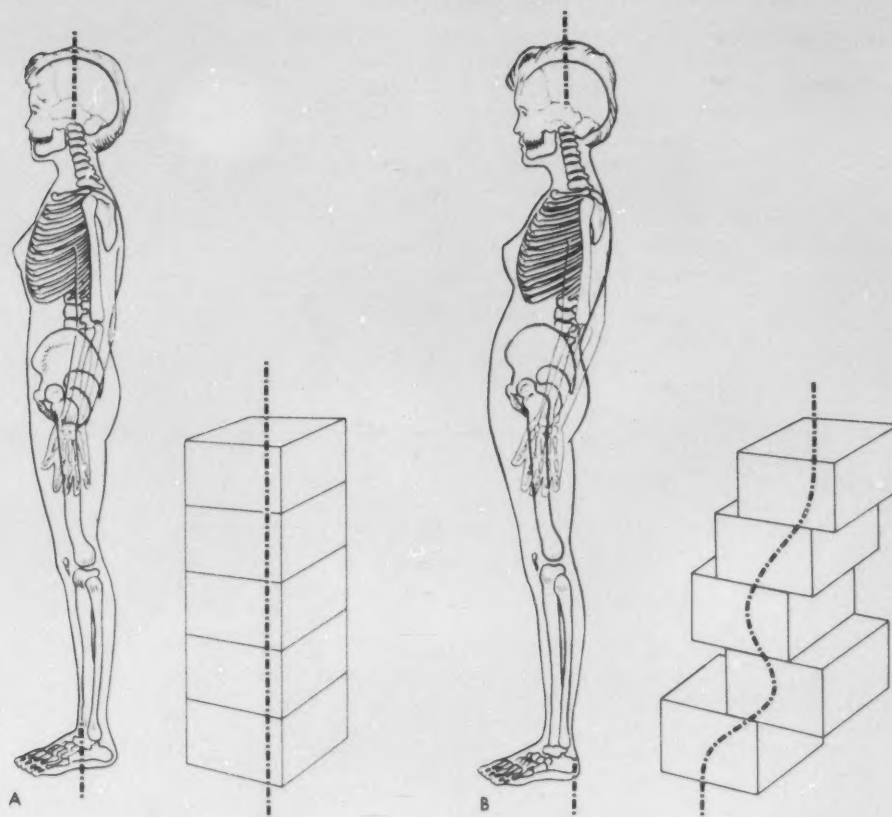
- | | |
|---|------------------------|
| 1. _____ back surface | a. intervertebral disc |
| 2. _____ spinal bones | b. ligaments |
| 3. _____ arms and legs | c. anterior |
| 4. _____ bind bones together | d. lateral |
| 5. _____ body without extremities | e. midline |
| 6. _____ imaginary line dividing body into equal halves | f. posterior |
| 7. _____ cushions between spinal bones | g. trunk |
| 8. _____ refers to side | h. extremities |
| 9. _____ attaches muscles to bone | i. tendons |
| 10. _____ refers to front surface | j. buttocks |
| | k. skeletal |
| | l. vertebral column |

I. State the rule of body function given in this part of the lesson.

ITEM 4. BODY ALIGNMENT AND BALANCE

Alignment has been defined as the proper relationship of the body segments to each other. When the segments are properly aligned, it is easier to maintain body balance. Balanced means stable, steady, and not likely to tip or fall.

The main portions of the body (pelvis, thorax, head) are supported by structures below them which are often very small (e.g., small bones in feet, vertebrae). To maintain the proper relationship and balance of these anatomical parts, the ligaments and muscles must be used effectively. In the following figures, your common sense and past experience tell you that *B* is much more likely to tip or fall than *A*. That is, Figure *A* is more *stable* than Figure *B*.



Good relationship of segments.

Poor relationship of segments.

Let us see why Figure A is more stable. The force of gravity affects balance because it is constantly pulling the body toward the earth. Three principles of gravity that affect our balance are:

1. *Center of gravity*—an area located in the pelvis about the level of the second sacral vertebrae. The exact location may vary slightly, depending on body structure.
2. *Base of support*—provides a stable stance for keeping the body from toppling over, and provides stability in movements such as lifting, pushing, or pulling.
3. *Line of gravity*—as documented by some well-known orthopedists (Lovett, Reynolds, Steindler) is an imaginary line which falls in the frontal plane, i.e., it passes behind the ear downward just behind the center of the hip joint and then downward slightly in front of the knee and ankle joint. Individual variations may occur according to skeletal build and the curvatures in the spine.

When a person stands in an erect posture so that the line of gravity falls as stated above, body balance is preserved and there is minimal resistance needed to overcome the force of gravity. If the posture is out of alignment as seen in Figure B, the body weight distribution is shifted, the balance is upset, the muscles no longer work together, and the gravitational pull is increased.

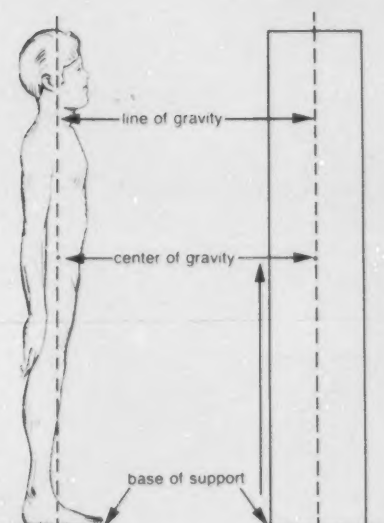
To illustrate these three principles, the body may be compared with a plank of wood of the same length, or about 5 feet, 6 inches long. The body (or any object) has a point at

which its "mass" or weight is centered. At this point, the weight of the upper body balances the weight of the lower body, and the weight of the body is balanced. This is called the *center of gravity* and it influences the stability of an object.



In the sketches shown above, note the center of gravity in the board and the body. It is quite low. The *base of support* is the part of an object in contact with the ground or other level surface. The base in the illustration is the length of the board, or the body, and is very broad. The *line of gravity* is an imaginary vertical line that *passes through the center of gravity*. Body balance is maintained when the line of gravity passes through the base.

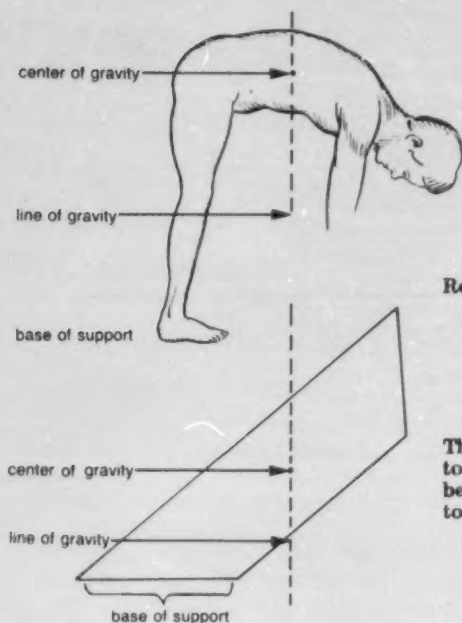
Now let's see what happens to the center of gravity, the line of gravity, and the base when we stand up. Again compare the body with a board of the same height.



In this illustration the mass is taller than in the previous illustration—its center of gravity is raised, the base is narrower, the board and the man therefore become more unstable and likely to fall. Think what could happen if that narrow base were perched on a ladder or a rocking chair.

High center of gravity—unstable position.

In the following illustration, the figure is shown leaning over. See what happens to its stability.



Remember! The body is *most unstable* when the

1. center of gravity is *high*,
2. base of support is *narrow*, and
3. line of gravity *does not pass through* the base of support.

This figure would fall unless an opposing force to gravity held it up. An opposing force could be the use of the arms pushing against an object to keep the body from tipping over.

Fill in the blanks with the most appropriate answer.

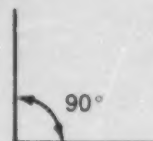
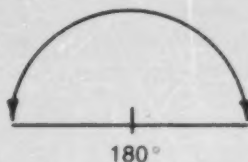
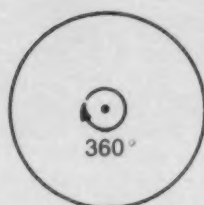
- J. A force that pulls toward the ground is called _____.
- K. The point in the body where the mass is centered is called the _____ of gravity.
- L. An imaginary vertical line that passes through the center of gravity is called the _____ of gravity.
- M. An object is said to be _____ if it is steady, not likely to fall.
- N. We are least likely to fall if
- (1) The center of gravity is _____.
 - (2) We have a broad _____, and
 - (3) The line of gravity passes through the _____.
- O. A question for thought: Besides preventing weight bearing by an injured or weakened leg, how do crutches affect stability and balance?

ITEM 5. BODY MOVEMENT

You have studied some of the principles of good body alignment and balance and are now ready to learn more about body movement. The *joints* allow the movement when the

muscles contract and pull on bones. Various terms describe these joint movements. We will now take up the movements of flexion, extension, hyperextension, abduction, and adduction.

First, notice that a full circle contains 360° while a straight line has half of that, or 180° . The right angle has only 90° .



U
N
I
T
S

If you hold your arm out straight, the elbow joint forms a straight line—or a 180° angle. By bending the elbow joint, you *decrease* the angle, i.e., decrease the number of degrees from 180. This is called *flexion*. *Extension* is the joint movement opposite to flexion. When you straighten the arm that is bent at the elbow, or the leg that is bent at the knee, you are *increasing* the angle at the joint and *extending* the arm or leg.

Some joints allow for increasing the angle more than 180° —or beyond a straight line. This is called *hyperextension*. You hyperextend your neck each time you raise your chin and tilt your head backward. The knee joint also allows the movement of hyperextension. You can feel this movement if you stand normally with the knee joint nearly straight; then force the knee joint even straighter until the joint is locked or rigid. We will refer to hyperextension of the knees later when we discuss the guidelines for correct method of stooping.

Abduct is another term used to describe certain joint movements. Abduct means to *move away* from the midline of the body. (One way to remember this word and its meaning: if a child is kidnapped, he is abducted or taken away from his family.) The opposite movement of abduct is *adduct*—the movement to bring the part back *toward the midline* of the body. A memory clue for this: “adds to” the body.

The *body movements* are flexion, extension, adduction, and abduction. The *muscles* which produce the movements are called flexors, extensors, abductors, and adductors. Muscles work in pairs and are called *antagonists*. If one muscle flexes a joint, its antagonist will extend the joint. Abductors are antagonists of adductors. Each muscle of the pair has an action opposite to that of the other.

P. Circle the appropriate answer.

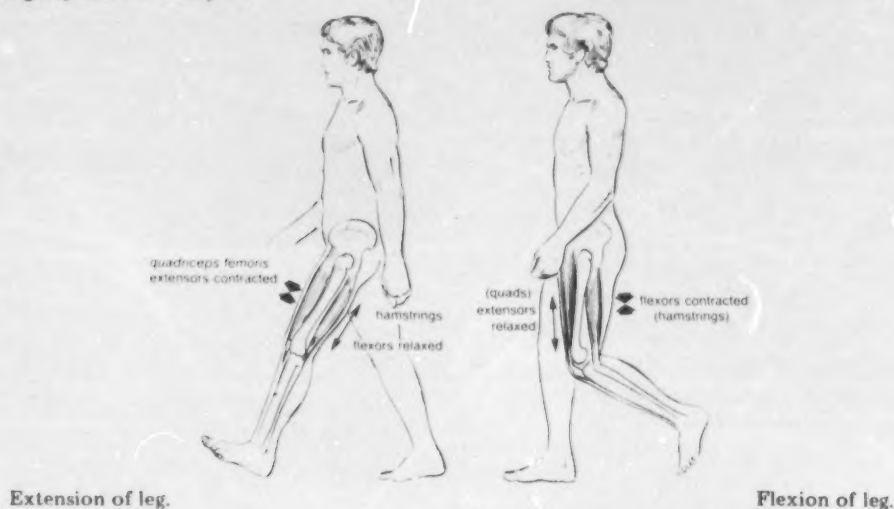
- (1) The (*skeletal system*) (*muscular system*) forms the framework of our body.
- (2) The (*skeletal system*) (*muscular system*) produces movement.
- (3) Muscles with opposite actions in pairs are called (*extensors*) (*antagonists*).

Q. Please carry out the following movements.

1. Flex your lower leg (knee joint).
2. Extend your lower leg (knee joint).
3. Flex your head (neck).
4. Hyperextend your head (neck).
5. Hyperextend your lower leg (knee joint).
6. Flex your hip joint.
7. Abduct your arm.
8. Adduct your arm.

ITEM 6. MUSCLE GROUPS

In the movements of lifting, carrying, and stooping, we will be referring to several specific muscle groups. Since standing erect and walking are essential to these movements, we will consider two muscle groups which are the most powerful in the body, the *quadriceps* and the *hamstrings*. The quadriceps are composed of four parts—hence the prefix “quadri.” They are found on the anterior, or front, of the thigh and pass over the knee joint in order to extend the leg. Six muscles make up the hamstring group which is on the posterior of the thigh. The hamstrings oppose the action of the quadriceps, so that they work to flex the leg beyond the knee joint.



The *gluteal muscles* form the seat or the rump. They are the thick muscles on which you sit. They function to extend and to hyperextend the hip joint. The gluteals, hamstrings, and quadriceps are used in walking and other movements. When you are standing, they help to keep the femur, or thighbone, erect on the shinbone (tibia), which is the large bone of the lower leg.

There are other muscles around the hip joint and knee that act to *stabilize* the joint rather than to *move* it. (Stabilize means to set or prevent unnecessary or secondary movement.) These muscles are important in walking or lifting. They allow a joint to support the shifting weight of the moving body as the center of gravity changes.

We will consider another important muscle group at this time—the “corset muscles” or the “living girdle.” The corset muscles are the muscles of your abdomen which are arranged in layers to form the wall of the abdomen and support the abdominal and pelvic organs. The abdominal muscles usually work in opposition to the diaphragm so that when one is contracted, the other is relaxed. In lifting or carrying heavy objects, considerable strain is placed on the corset muscles. Before such exertion, these muscles should be contracted or “set” to provide good support and prevent possible injury.

Circle the appropriate answer to the following questions.

- R. The quadriceps muscles are found on the (anterior) (posterior) (lateral) part of the thigh.
- S. The action of the quadriceps muscles is to (flex) (extend) the lower leg.
- T. The hamstring muscles are located on the (anterior) (posterior) (lateral) part of the thigh.
- U. The hamstring muscles (flex) (extend) (hyperextend) the lower leg at the knee joint.
- V. The gluteal muscles form the (thigh) (abdomen) (buttocks).

ITEM 7. CHECKPOINTS FOR GOOD BODY ALIGNMENT

Before beginning body movements, you should align and balance your body properly in order to prevent strain and injury. There are some checkpoints for you to remember and practice when aligning and balancing your body. In the skill laboratory, you should practice according to these checkpoints. You should then consciously check your alignment and balance every time you stand.

Important Steps

Key Points

Checkpoint One

Start from a good base of support.

Place your feet parallel and about 6 to 8 inches apart. You can widen your base if necessary, or if more comfortable. Then, for anterior-posterior stability, put one foot ahead of the other.

This stable base of support will save your energy by minimizing the work the muscles must do to keep the body balanced. With your feet parallel, the joints are in good alignment. You will probably notice that the heels of your shoes will wear more evenly.

Checkpoint Two

Distribute your weight evenly on both feet.

This permits the weight-bearing joints and their supporting structures to divide the weight and share the load.

Checkpoint Three

Keep your knees slightly flexed.

Slight flexion produces a "shock-absorber" effect and prevents jolting movements of the entire body. It also avoids the strain caused by hyperextension of the knees, or "locked knees."

Checkpoint Four

Tuck in your buttocks.

By tucking in the buttocks, you tilt the pelvis forward and help straighten the lumbar curve of the spine. This prevents "sway back," and allows for even distribution of pressure of the intervertebral disc cushions. If you look at yourself in a mirror with the buttocks first protruding, then tucked in, you will see that the tucked-in position presents a better appearance.

Checkpoint Five

Keep the abdomen up and in.

This will support the abdominal organs and decrease muscle strain on the back. Good abdominal muscle control permits your clothes to fit better and gives a more attractive appearance. Put your living girdle to work.

Checkpoint Six

Raise your rib cage.

By holding your chest up, you allow for more complete expansion of the lungs. Keep the shoulders relaxed; you need not stand at military attention for good body alignment and balance. By raising the rib cage, you decrease the hump shoulder appearance.

Checkpoint Seven

Keep your head erect.

Let your head "balance" on top of your spine. Holding the chin in and up prevents exaggerated curvature of the neck and the thoracic portion of the spinal column.

In summary, these checkpoints are listed again for you:

1. Start from a stable base of support with feet separated and one slightly ahead of the other.
 2. Flex knees slightly to act as shock-absorbers.
 3. Tuck buttocks under and pelvis forward to prevent sway back.
 4. Keep abdominal muscles up and in to support abdominal organs.
 5. Keep rib cage up to allow full expansion of the chest.
 6. Hold head erect to avoid curvature of neck and thorax.
- W. To demonstrate body balance, you should stand and check the alignment of your body:
- Are your feet parallel?
 - Are your feet separated for good lateral stability?
 - Is your weight evenly distributed on both feet?
 - Are your knees slightly flexed? (not locked or hyperextended.)
 - Is your thorax up and in good alignment?
 - Are your shoulders relaxed?
 - Is your head in alignment and balanced?
- X. Now, maintaining the alignment of your upper body, lean forward from your hips and to the side. Now place both of your feet close together. Again lean forward from your hips and to the side.
- (1) Were you able to lean as far without beginning to lose your balance?
Yes _____ No _____
 - (2) Did you feel unstable when you were leaning with your feet together?
Yes _____ No _____
 - (3) Why do you think this was so? _____

ITEM 8. CONCLUSION OF THE LESSON

You have now completed the unit on Body Alignment, Balance and Movement for Health Workers, Part I. The habit of good body alignment and balance will help you present an attractive appearance and may prevent strain or injury as you perform your duties. Obtain the written and performance post-tests. After you have completed the written test, make an appointment with your instructor to demonstrate your ability to understand and to practice good body alignment and balance.

WORKBOOK ANSWER SHEET

- Item 1* p. 55
- A. 1-5: reach, lift, carry, push, pull, stoop, stand, sit, walk, turn
(any five of these)
 - B. (1) attractive appearance
(2) may prevent injury
(3) may make work easier
(reduce fatigue; prevent adding work for fellow employees;
or other similar answer)
 - C. (1) fairly common
(2) poor body alignment or movements
 - D. It would increase their work load because they would have to
perform my work as well (any similar answer).
- Item 2* pp. 55-57
- E. (5) all of these
 - F. 1, 2, and 4
 - G. 2
- Item 3* pp. 57-59
- H. 1 - f; 2 - j; 3 - h; 4 - b; 5 - g; 6 - e; 7 - a; 8 - d; 9 - i; 10 - c
 - I. Structure determines function
- Item 4* pp. 59-62
- J. gravity
 - K. center
 - L. line
 - M. stable
 - N. (1) low
(2) base of support
(3) base
 - O. The crutches provide a broader base of support and make the
body more stable.
- Item 5* pp. 62-63
- P. (1) skeletal system
(2) muscular system
(3) antagonists
 - Q. Confirm these movements by checking with the definitions in
the text.

Item 6 p. 64

- R. anterior
- S. extend
- T. posterior
- U. flex
- V. buttocks

Item 7 pp. 66-67

- W. The answer to each question should be yes.
- X. (1) No
- (2) Yes
- (3) The base of support was narrow and the line of gravity did not pass through the base.

*Part One**PRE-TEST*

Place a circle around the "T" if you think the statement is more true than false, and circle the "F" if the statement is more false than true.

- T F 1. As long as you do your work well, proper body alignment and balance are of no concern to your co-workers or employer.
- T F 2. Each nursing action utilizes principles of body alignment and balance.
- T F 3. Back strain and injury, although serious, are not very common among health workers.
- T F 4. Many people do not use good body alignment and balance because the proper movements appear unattractive.
- T F 5. Our weaker flexor muscles help oppose gravity and thereby maintain our upright aspect.
- T F 6. Correct alignment of body segments places added strain on ligaments, tendons and joints, thereby increasing fatigue.
- T F 7. In good body alignment and balance, the shoulders should be held back firmly.
- T F 8. The knees should be firmly locked to give stability to the body.
- T F 9. The feet should be approximately two to four inches apart and rotated slightly outward for good support.
- T F 10. A "broad base stance" requires the feet to be approximately 12 to 16 inches apart with one foot slightly in front of the other.
- T F 11. We are more unstable if the vertical center of gravity passes through our base.
- T F 12. Our extensor muscles must help oppose gravity in order to help us remain upright.
- T F 13. The back is most often strained when in hyperextension.
- T F 14. The quadriceps femoris muscles flex the hip joint.
- T F 15. Joints, muscles, and ligaments can all be injured if poor body alignment and balance are used.
- T F 16. The habitual use of poor alignment and balance is fatiguing.
- T F 17. Good body mechanics are effective in reducing injury and strain, although they give the worker an awkward appearance.

*Part One***PRE-TEST ANSWER SHEET**

- | | |
|------|-------|
| 1. F | 10. T |
| 2. T | 11. F |
| 3. F | 12. T |
| 4. F | 13. T |
| 5. F | 14. F |
| 6. F | 15. T |
| 7. F | 16. T |
| 8. F | 17. F |
| 9. F | |

Note: These answers were not annotated because the failing (less than 85% accuracy) student will need to proceed through the unit.

Part One

POST-TEST

Vocabulary: Match the words in Column 2 with the meaning or phrase in Column 1.

Column 1

- ___ 1. The body without head and extremities
- ___ 2. Attaches bone to bone
- ___ 3. One of a pair of muscles, having an action opposite from the other
- ___ 4. The arms and legs
- ___ 5. Attaches muscle to bone
- ___ 6. A simple sugar, or fuel
- ___ 7. Not likely to tip or fall
- ___ 8. Formed by the gluteal muscles
- ___ 9. The relationship of movable body segments to other segments of the body
- ___ 10. A force that pulls toward the earth

Column 2

- A. Body alignment
- B. Gravity
- C. Glucose
- D. Hormones
- E. Stability
- F. Trunk
- G. Antagonist
- H. Ligament
- I. Buttocks
- J. Extremities
- K. Tendon
- L. Thorax

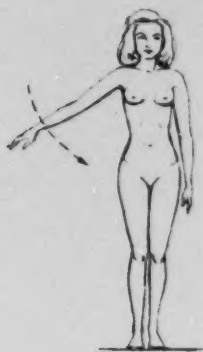
UNIT 5

Completion: Complete the following statements.



1. This movement is called _____.

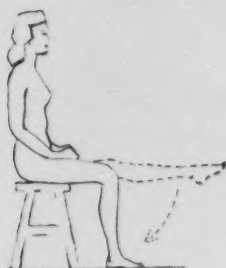
2. This movement is _____.



3. This body surface is the _____ view.

5. This body surface is the _____ view.

4. The movement is _____.



6. This movement is _____.

7. This movement is _____.



In the figure shown above:

8. The base of support is _____.

9. The center of gravity is _____.

10. The position is one of relative _____.

Multiple Choice: Choose the best answer(s).

1. All but one of the following statements are characteristics of good body alignment and balance. The statement that is *not* characteristic is:
 - ___ a. The body is balanced over its base of support.
 - ___ b. Oxygen and glucose are used by muscles as "fuel."
 - ___ c. Segments of the body are in proper relationship.
 - ___ d. Strain on muscles and joints is minimized.
2. Balance of the body is *best* achieved by:
 - ___ a. a low center of gravity, a narrow base, and the line of gravity passing through the base.
 - ___ b. a high center of gravity, a broad base, and the line of gravity passing outside the base.
 - ___ c. a high center of gravity, a narrow base, and the line of gravity passing through the base.
 - ___ d. a low center of gravity, a broad base, and the line of gravity passing through the base.
3. Balance of the body is maintained by:
 - ___ a. the center of gravity passing through the base of support.
 - ___ b. a high center of gravity located outside a narrow base.
 - ___ c. a line of gravity passing through the base of support.
 - ___ d. a line of gravity passing outside the base of support.
4. The center of gravity in the body is a point:
 - ___ a. around which the body weight or mass is centered.
 - ___ b. located and stabilized in the pelvic region.
 - ___ c. that must lie within the base of support.
 - ___ d. all of the above.
5. Low back strain in the hospital worker is most often caused by:
 - ___ a. the carelessness of other people.
 - ___ b. lifting too heavy an object or person.
 - ___ c. using the back muscles to lift a weight.
 - ___ d. body segments aligned with each other.
6. The worker who suffers a muscle strain of the back or shoulder might:
 - ___ a. have a lot of pain.
 - ___ b. lose a week or more of work.
 - ___ c. have prevented the injury.
 - ___ d. all of the above.

7. Movement of the body occurs:
- ___ a. where muscles are attached to bones.
 - ___ b. at joints which are acted upon by muscles.
 - ___ c. when bones are stimulated by nerves.
 - ___ d. at the immovable joints.
8. Ligaments are strong cartilage bands which:
- ___ a. connect muscles and tendons.
 - ___ b. connect muscles to muscles.
 - ___ c. connect bones to bones.
 - ___ d. connect tendons and bones.
9. The trunk of the body plays an important part in body alignment and balance. The "trunk" refers to:
- ___ a. the buttocks and the extremities.
 - ___ b. the thorax and the neck.
 - ___ c. the back and the extremities.
 - ___ d. the abdomen and the thorax.
10. The palm of the hand is a subpart of the upper extremity and its surface is referred to as:
- ___ a. lateral
 - ___ b. midline
 - ___ c. posterior
 - ___ d. anterior
11. To insure good stability of the base of support of the body, the feet should be positioned:
- ___ a. parallel and very close together.
 - ___ b. about 8 inches apart, one a little ahead of the other.
 - ___ c. about 8 inches apart, toes pointed laterally.
 - ___ d. parallel and at least 2 feet apart.
12. A person with sagging abdominal muscles often has a greater curve in his back, or a "sway back." This greater curve may cause:
- ___ a. less fatigue when doing heavy work.
 - ___ b. decreased strain on the backbone.
 - ___ c. uneven pressure on intervertebral discs.
 - ___ d. increased shock-absorber effect of the spine.

13. The large, strong muscle groups of the body include which of the following?
- ___ a. The back muscles and the gluteals.
 - ___ b. The quadriceps femoris and the back muscles.
 - ___ c. The hamstrings and the adductors.
 - ___ d. The gluteals and the quadriceps femoris.
14. Muscles are frequently referred to by a name similar to the name of the movement produced by their action. Some of these muscles would be called:
- ___ a. Flexion, extensors, and adductors.
 - ___ b. Hyperextension, abduction, and extensors.
 - ___ c. Flexors, adductors, and abductors.
 - ___ d. Extension, hyperextension, and flexion.
15. Groups of muscles are usually found working in pairs to produce movement at the joints of the body, and are called antagonists. One example of antagonist muscles is:
- ___ a. flexor and adductor.
 - ___ b. quadriceps femoris and back muscles.
 - ___ c. abdominal muscles and diaphragm.
 - ___ d. extensors and hyperextension.

POST-TEST ANNOTATED ANSWER SHEET*Vocabulary*

1. F
2. H
3. G
4. J
5. K
6. C
7. E
8. I
9. A
10. B (p. 54)

Completion

1. extension (p. 63)
2. abduction (p. 63)
3. anterior (p. 58)
4. adduction (p. 63)
5. lateral (p. 58)
6. flexion (p. 63)
7. hyperextension (p. 63)
8. narrow (p. 61)
9. high (p. 61)
10. instability (p. 61)

Multiple Choice

1. b (p. 65)
2. d (p. 60)
3. c (p. 60)
4. a (p. 60)
5. c (p. 55)
6. d (p. 55)
7. b (p. 55)
8. c (p. 58)
9. d (p. 57)
10. d (p. 58)
11. b (p. 65)
12. c (p. 58)
13. d (p. 64)
14. c (p. 63)
15. c (p. 63)

*Part One**PERFORMANCE TEST*

In the skill laboratory, your instructor will ask you to demonstrate your skill in carrying out the following instructions without reference to source material:

1. In a standing position, you are to position your body in proper alignment and describe the seven checkpoints that you are to use as a guide.
2. In a standing position using good body alignment, bend your right knee and take one step forward as you straighten your leg. Describe the body movements of the leg, and name and locate the muscles that were most involved.
3. In a standing position with good body alignment, take one step of 12 inches or more to your left, then bring the other foot parallel to your left foot. Describe the body action in the movement of the left foot, and the action of the right foot.
4. You are to use your neck joints to perform these movements:
 - a. flexion of the neck.
 - b. hyperextension of the neck.
 - c. abduction of the head.
 - d. adduction of the head.

*Part One***PERFORMANCE CHECKLIST****BODY ALIGNMENT, BALANCE AND MOVEMENT**

Student will demonstrate proper body alignment.

1. Feet in stride position, parallel or one slightly in front of the other.
2. Weight evenly distributed on both feet.
3. Knees slightly flexed.
4. Buttocks tucked in or pelvis tilted forward, spine straight, and lumbar curve reduced.
5. Abdominal muscles pulled up, held in.
6. Thorax raised, shoulders relaxed.

Student will demonstrate good posture while walking and be able to identify major muscles involved in producing the movement.

1. Body in good alignment.
2. Right knee flexed: describe movement; identify muscles which are the prime movers; identify correct position of these muscles.
3. Extend right knee and step forward: describe movement; identify prime movers; show principal location of prime movers.
4. Shift weight to lead foot: identify movement; identify prime movers; give principal location of prime movers.

Student will perform sideward step.

1. Body in good alignment.
2. With left foot, step 12 or more inches to left: describe movement; identify prime movers and give location.

The student will demonstrate the following movements:

1. Flexion of the neck.
2. Abduction of the head.
3. Adduction of the head.
4. Hyperextension of the neck.
5. Extension of the neck.

Unit 6

BODY ALIGNMENT, BALANCE AND MOVEMENT FOR HEALTH WORKERS

Part II

I. DIRECTIONS TO THE STUDENT

Please read the following paragraphs carefully. They will tell you exactly what you will be expected to do and know at the end of this lesson. You will need the following items:

1. The pre-test for this lesson.
2. This programmed instruction unit and a pen or pencil.
3. The post-tests which are to be taken at the end of the lesson.

Take the pre-test before you begin the lesson. Correct the test. If you did so well on the pre-test that you believe you would be wasting your time studying this material, discuss the possibility of progressing directly to the post-test with your instructor. All students are expected to demonstrate accurately the skills required on the performance test and to demonstrate understanding of the knowledge and principles of body alignment, balance and movement on the written post-test.

II. GENERAL PERFORMANCE OBJECTIVE

You will demonstrate your knowledge of good body alignment, balance and movement by a performance test and a written test.

III. SPECIFIC PERFORMANCE OBJECTIVES

1. Given an activity to perform at floor level (e.g., mopping up a spill, or placing slippers on a patient's feet), you will stoop, keeping the body aligned and balanced, and use the large muscles of the thighs and buttocks for the activity.
2. Given a heavy object located at least six inches higher than you are tall, you will reach and remove the object without hyperextending, or straining the back, or losing your balance.
3. Given an object weighing 10 to 15 pounds, you will carry it for five minutes in such a manner as to minimize fatigue and prevent straining.
4. Given an object to push or pull (e.g., wheelchair, laundry cart, food cart), you will move the object by "setting" your muscles, using the leg muscles to supply most of the force needed and the body weight to assist the movement.
5. Given an activity that requires turning or pivoting (e.g., assisting a patient from bed to chair, or turning from desk to file cabinet), you will position your feet and body in such a manner that straining your trunk or back will be prevented.

6. In a written post-test, you will answer questions about the following:
 - a. The five guidelines that permit good body alignment and efficient movement in the performance of your skills.
 - b. The principles of body alignment, balance and movement in reaching for an object, carrying a heavy object, making a pivoting turn, pushing or pulling an object, and in performing an activity at floor level.

IV. VOCABULARY

contaminate—to soil or pollute; to render impure; to render unclean or unsterile.

diaphragm—the musculomembranous wall separating the abdominal cavity and the thoracic (chest) cavity; a powerful muscle used in breathing.

friction—resistance to movement between two objects in contact.

fulcrum—the support (wedge or axis) about which a lever turns or moves.

V. INTRODUCTION

In Part I of “Body Alignment, Balance and Movement” you learned how to position your body segments in proper alignment and balance for a stable standing position. This position will serve as a “base position” or beginning point for all the movements you will make in the performance of your activities.

This lesson, Part II of “Body Alignment, Balance and Movement,” will present five guidelines to assist you in working with the natural laws of gravity, friction, and leverage, which will aid in giving patient care. It will help you to use the muscles, ligaments and joints that are best designed for safe and effective movements.

The movements of stooping, reaching, lifting and carrying, turning, pushing, or pulling will be explained in detail so that you can (and should) practice each carefully.

Before proceeding further, let's review the “key points” of our *base position* of good standing alignment and balance. These are the points to check when you assume a standing position.

1. A stable base of support with feet separated and one foot slightly ahead of the other.
2. Weight evenly distributed on both feet.
3. Both knees slightly flexed.
4. Buttocks tucked in.
5. Abdomen held up and in.
6. Rib cage raised.
7. Head held erect.

We will now go on to the guidelines you should observe as a basis for the body movements used in performing your nursing skills.

GUIDELINES FOR BODY MOVEMENTS

GUIDELINE 1. MAINTAIN ALIGNMENT AND BALANCE

You need to start any body movement from a good base of support to provide stability. You can avoid twisting your back by keeping your feet pointed in the same direction as you

will move. By keeping your trunk aligned or in a straight position, you can prevent twisting and straining of the small muscles of the back.

This standing posture, in good body alignment and balance, is the basis for all of the movements you will use in your work.

GUIDELINE 2. WORK AT A COMFORTABLE HEIGHT

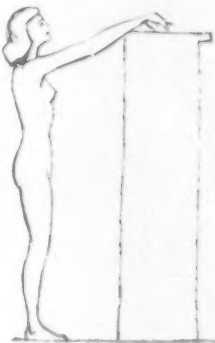
A comfortable working height for most people is between the waist level and a level about 6 inches below the hip joint. For most women, this level is about 30 to 32 inches off the floor. This working level minimizes muscle strain of reaching beyond the length of the arms, and allows the body to remain aligned and balanced. This working height allows us easily to flex the hip and knee joints, and to apply leverage to our work.

Working at too low a level causes strain on muscles and produces fatigue. It is more difficult to maintain your balance within your base of support, and leverage may be poor. In order to work at a low level, you may need to flex your knees and stoop so that the large thigh muscles are used rather than the weaker muscles of the back.

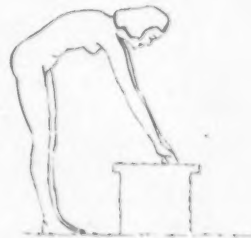
Working at too high a surface level adds to the demands on arms and shoulders, and this produces muscle strain and fatigue. Reaching a high work surface may also cause hyperextension of the lower back, raises the center of gravity of your body, and results in a less stable position. Injury, such as low back strain, may occur if you reach overhead incorrectly or stretch to perform work at too high a level.



Correct work height



Too high work level



Too low work level

All work should be performed at the proper height when possible. You may be able to change the level of the working surface, e.g., most hospital beds today can be adjusted to a higher or lower position. In the high position, the bed is about 32 inches from the floor, a good working height to provide care for the patient. If you are unable to change the height of the work surface, you may need to use a stool to raise yourself to a more suitable level or you may need to stoop down, keeping your body in good alignment.

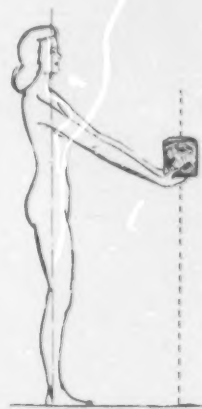
GUIDELINE 3. KEEP THE WORK CLOSE TO YOUR BODY

You can perform tasks more easily and with less strain or fatigue if your work is close enough to your body to avoid stretching or reaching. You apply this principle when you move the patient to the side of the bed nearest you before you bathe him, or when you go around to the other side of the bed rather than reach or stretch across the bed and hyperextend your back, or lose your balance by having your line of gravity outside your base of support.

When you carry an object during your work, you can do so more easily if the object's line of gravity falls within your base of support. The additional weight of the object may alter your center of gravity slightly, but the large, strong muscles of your thighs and buttocks will help support the weight. If the object's line of gravity is outside your base of support, the muscles of your arms or shoulders must support the weight of the object and overcome the force of gravity.



Object carried within your base of support.



Object carried outside your base of support.

One point of caution: Carry objects close to the body, but do not contaminate your uniform or clothing by carrying anything *soiled* next to you.

We can summarize the first three guidelines that have been presented so far:

1. Maintain alignment and balance.
 2. Work at a comfortable height.
 3. Keep the work close to the body.
- A. Pick up your heaviest book or a similar object and hold it out at arm's length for at least 30 seconds. Now bring it in close to your body for the same length of time.
1. What difference did you notice in its apparent weight?

 2. Explain why this is so: _____

- B. List three methods you might use in order to work at a comfortable height.
1. _____
 2. _____
 3. _____
- C. How might you avoid hyperextending your back if you were asked to support a patient's leg in a cast while the doctor adjusted the cast?

- D. Why would you carry soiled linen slightly away from you so it would not touch your uniform?
-
-

GUIDELINE 4. USE SMOOTH, COORDINATED MOVEMENT

Smooth, coordinated movements utilize the muscle contractions in an efficient way. The movements flow from one to the other in a rhythmic and graceful way, avoiding jolting and jarring which might cause discomfort, pain or injury. The use of smooth, coordinated movements is especially important for nurses, who will be more competent, more efficient, and appear more attractive when performing any task.

Smooth movements are safer for you as a worker, and also for the patient. Uncoordinated movement produces sudden, jerky motions which may cause discomfort or injury. This is to be avoided, especially in the case of a patient with a fracture (broken bone) where movement might cause separation of the bone or muscle strain and cause him unnecessary pain. You can gain the patient's cooperation by explaining what you are going to do and what his part will be.

Often you will be working with another person in order to lift or move patients or objects safely. When working with a helper, one person should give the signals for moving or lifting, and thus coordinate the teamwork.

GUIDELINE 5. "SET" OR PREPARE THE MUSCLES FOR ACTION

Have you ever noticed when you prepare to move a heavy object that you take a deep breath, tense your muscles, and let your breath out slowly as you move the object? If you have done this, you have utilized several principles of body alignment and movement: (a) you have taken in a larger supply of oxygen in the deep breath, (b) you have "set" or tensed the abdominal muscles which are antagonists of the diaphragm muscle, and (c) as the diaphragm relaxes in releasing the breath, the abdominal and gluteal muscles do more of the work. You have made use of the "corset muscles" or the "living girdle" to lift, pull or push a heavy object. "Setting" the muscles, or tensing them for action, helps to distribute the work load over a larger number of muscles and decrease the load for any one muscle. This stabilizes the muscles to protect ligaments, joints, and muscles from sudden jerking and strain.

To summarize, our guidelines for body movements are:

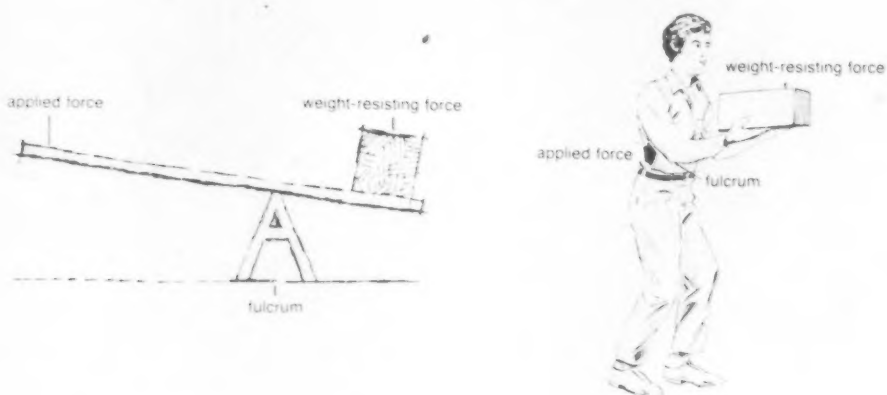
1. *Maintain alignment and balance.*
 2. *Work at a comfortable height.*
 3. *Keep the work close to your body.*
 4. *Use smooth, coordinated movements.*
 5. *"Set" the muscles for action.*
- E. Give two reasons for using smooth, coordinated movements in caring for the sick.
1. _____
 2. _____
- F. Why is it best to "set" or prepare the muscles before performing a strenuous activity?
-
-

LEVERAGE AND FRICTION

Knowledge of two physical forces is helpful before you study body movements in more detail. One of these forces—*leverage*—can make your movements easier. The other one—*friction*—makes your work more difficult. We will not go into detail about the physics involved in these two forces, but will describe them in simple terms.

If you tried to slide a heavy box across a damp wooden floor, *friction* would result from the contact between the box and the floor. This friction would make it difficult for you to slide the box. If the floor were clean, dry, and waxed, friction would be reduced and you could slide the box more easily. We can define friction as the resistance to movement by two bodies in contact with each other.

The second force of *leverage* is used often in nursing to increase the amount of work that we can do and also to make it easier. A simple illustration of leverage is that of a child on a teeter-totter raising a heavier child at the other end of the board. In nursing, we often brace a knee against the side of the bed in order to pull a drawsheet tight and taut under the patient. Mechanical lifts to raise or transport patients are another form of lever. Your arms act as levers when you cradle a patient or child in them in order to lift him further up in bed. In simple terms, a lever is a bar, with a fixed axis or fulcrum, acted upon at one end by an applied force, or power, and at the other by a resisting force, or weight, that moves the bar.



G. _____ makes work and movements easier.

H. The resistance to movement is caused by _____.

ITEM 1. THE MOVEMENT OF REACHING

You are going to study in detail five body movements: reaching, stooping, turning, carrying, and pushing or pulling. These movements are basic to the performance of your hospital skills. When coupled with the five guidelines of movement you have just learned, you should be able to work with physical safety and with minimal fatigue. Each movement should be practiced step by step. Note the *reason* for each step. You will be asked to *perform* these movements and *give the reason* for each in your post-test.

Our first movement is *reaching*.

In the skill laboratory, you should practice reaching to place or to remove an object from a shelf that is higher than your head without hyperextending, straining your back, or losing your balance.

Important Steps

Key Points

- | | |
|--|---|
| 1. Start with basic position and stable base of support. | Check your body alignment. If the object is located or is to be placed on a high shelf, check the distance to be reached. Avoid reaching above your shoulder level when possible because this tends to hyperextend the lower back and may cause strain. |
| 2. Stand on a footstool. | This decreases the distance to reach. Less reaching keeps the center of gravity lower in your body and increases the body's stability and balance. A ladder may be needed if the object is in a very high place. |
| 3. Spread your feet apart. | This broadens your base and provides better lateral stability. |
| 4. Advance one foot forward in the direction of the reach. | This provides a stable stance by broadening the anterior-posterior base of support. The toes should be parallel to the direction of body movement in order to prevent twisting of the trunk. If a footstool or ladder is used, be sure that your line of gravity is centered on it. |
| 5. Reach in front of you rather than directly overhead to remove the object. | The stool should be placed slightly away from the area of the high shelf so that when standing on the stool you can look and reach forward. Reaching or looking overhead hyperextends the neck and spine. It also makes you less stable so that you may lose your balance. Remember to raise yourself with a stool or ladder to a comfortable working height so that you will not hyperextend your spine. |
| 6. Stabilize your body by "setting" your muscles. | "Setting" distributes the work load over many muscles, and the tensing or contracting prepares the muscles for further action. It protects the joints and ligaments from strain or injury. |
| 7. Lower the object with smooth, coordinated movements. | Smooth movements prevent jarring or jolting of the body. |
| 8. Step off the stool or ladder. | Step <i>carefully</i> . Watch where you are going. Deposit the article in the appropriate place. |

To place an object on a high shelf, you would use the same procedure except to reverse steps 5 and 6, so that you would "set" your muscles, then reach in front of you to place the object on the shelf using smooth, coordinated movements.

Fill in the blanks.

- I. In reaching, the goals are to reach in such a manner that we prevent hyperextension of the _____ and we maintain _____.
- J. Why is the use of a footstool advisable in reaching?

K. How do you provide lateral stability while reaching?

L. Why is it safer to reach in front of the body rather than directly overhead?

ITEM 2. STOOPING

It is often necessary for us to stoop in the course of our work and everyday lives. Many objects and activities may be beyond the reach of our hands when we are in a standing position. A good many people stoop incorrectly to reach these objects or perform these activities. Incorrect stooping hyperextends the knees, curves the back, and forces the weaker back muscles to pull the trunk of the body upright again.

To stoop correctly, the back must be kept as straight as possible, and the stronger gluteal and thigh muscles should be used to return the body to an upright position.

In the skill laboratory, you should practice the procedure of stooping correctly. If you have difficulty getting up from the stoop position, ask your instructor, physician, or physical education teacher to show you some exercises which will help to strengthen your quadriceps and gluteal muscle groups.

Given an activity to perform at floor level, such as wiping up spilled water or obtaining supplies from a shelf near floor level, you are to lower and raise your body, keeping the trunk in an upright position and using the muscles of the lower extremities to do the work.

Important Steps	Key Points
1. Place your feet apart with one foot advanced.	This provides a stable base of support.
2. Lower your body by flexing hip and knee joints and keeping your trunk in an upright position.	This action is <i>controlled</i> by using the thigh and leg muscles. Gravity also pulls the body downward.
3. Shift your body weight forward so that it rests on the advanced foot and on the ball of the rear foot.	The heel of your rear foot will be off the floor. This relieves the tension on the tendons of the rear foot, and helps to maintain body alignment and balance. Wipe the spill, or remove the item from the shelf.
4. Raise your body to standing position by extending the hip and knee joints while keeping your body aligned and balanced.	This permits use of the large, stronger extensor muscles of the hip and thigh. The body works to oppose the "pulling down" force of gravity. You should be able to feel your heavy thigh muscles working as you rise to the standing position. Remember, if you are lifting an object, carry it near your body to decrease fatigue and strain.
5. Place object in appropriate place or discard soiled paper towels in waste container.	

Circle the best response in the underlined word or words.

- M. The body is lowered by (*flexing*) (*extending*) the (*hip and knee joints*) (*trunk*).
 N. (*Leverage*) (*Gravity*) pulls the body downward.
 O. In the stooped position, the (*rear*) (*advanced*) foot has its heel raised.
 P. To rise from the stooping position, the large strong muscles of (*the back*) (*buttocks and thighs*) are used.

ITEM 3. PIVOTING TURN

A pivoting turn is used often, when changing direction, when assisting a patient from the bed to a chair, or when trying to avoid hitting some object. Also, a worker who is seated in a chair frequently turns to reach a file cabinet or drawer.

Caution: An incorrect turning movement twists the trunk, and when the trunk or spine is twisted, even a relatively minor activity such as opening a drawer can cause muscle strain or injury. The body is not properly aligned if the trunk is rotated or twisted.

In a correct pivoting turn, the entire body moves and turns as a *single unit*. The trunk of the body should be like a log — not twisting, turning, or bending. The upper and lower extremities should move in the same direction and at the same time as the trunk. Later on, you may help in caring for a patient when it is vital for him to be “turned like a log” when he is in bed, in order to avoid injury or damage to the neck, back, or hip.

In the skill laboratory, you should practice making a pivoting turn until it seems natural and comfortable.

While in a standing position, you will make a turn laterally by placing your feet and body in such a manner as to pivot smoothly without causing your back to be twisted or strained.

Important Steps

1. Stand with your feet apart and your knees slightly flexed.
2. Stabilize or “set” the trunk and pelvic muscles.
3. Stabilize or “set” the thigh and leg muscles.
4. Shift your weight to the ball of each foot.
5. Pivot, or make a rotating turn of about 90°, on the balls of your feet, in the direction you wish to turn.
6. When the turn is completed, distribute your weight equally and evenly on each foot.

Key Points

Start with a stable base of support. This allows you to use the leg muscles and avoids “locking” or hyperextending the knees.

The “setting” of the muscles makes it easier to turn the body as a single unit.

This prepares the muscles for action.

The shift of weight allows the heel to lift very slightly, making the turn easier.

Move your feet and body as a *single unit*. Use a smooth, coordinated movement to prevent twisting of the trunk.

This provides a stable base of support and balance for further movements.

- Q. Why would you shift your weight to the ball of each foot before making the pivoting turn?

- R. List two activities in the hospital where a pivoting turn could be used to prevent twisting the trunk of the body.

1. _____
2. _____

ITEM 4. LIFTING AND CARRYING OBJECTS

Mechanical aids and other devices are decreasing the necessity for lifting many heavy objects, but hospital workers still must lift and carry frequently. You will need to use good judgment in deciding which object you can lift and carry alone. If in doubt, don't attempt it alone — leave it, or get others to help you.

In the skill laboratory you are to practice lifting and carrying an object. Given an object (a box of books, a stack of linen, or other article) weighing 10 to 15 pounds, you are to lift and carry it for 5 minutes in such a manner as to minimize fatigue and prevent strain.

Important Steps

1. Start with the stable base position.
2. Grasp the object firmly on either side of its approximate center of gravity.
3. "Set" your abdominal muscles and arm muscles, then lift the object and bring it close to your body.
4. Carry the object as close to the midline of the body as possible.
5. Shift the object occasionally during the 5-minute period.
6. Put the object down periodically.

Key Points

This insures good body alignment and balance for further movements.

To lift an object weighing 10 to 15 pounds, you should use both hands, grasping near its center of gravity. This helps to balance it; e.g., if you are lifting a square box, place your hands near the middle of the lateral sides.

This acts to stabilize the muscles and to prepare for the action of lifting.

Note: If you were lifting the object from a surface on or near the floor, you would use the stooping procedure to lower your body, grasp the object, and raise your body by using the buttocks, thigh, and leg muscles.

When the object's line of gravity falls within your base of support, the large, stronger muscles of the buttocks and thighs help to support the additional weight.

This relieves strain on certain muscles by rotating their activity.

This reduces the length of time the object must be supported, and also allows the muscles a short period of rest.

- S. In carrying an object, why is it best to hold it close to your body?

- T. List three ways to reduce strain if you must lift and carry heavy objects.

1. _____
2. _____
3. _____

ITEM 5. PUSHING AND PULLING

Pushing and pulling are frequently involved in the activities of hospital workers. They push or pull stretchers, food carts, housekeeping carts, beds, X-ray machines, wheelchairs, tables, therapy machines — the list seems endless. When we push or pull, we avoid carrying an object (a far more tiring effort).

When we push or pull objects in the hospital, we are guided by the "rules of the road." Move your equipment down one side of the corridor so that other traffic can pass. Watch carefully when going around corners or approaching an intersection with another corridor. When you have pushed or pulled your equipment to its place of use, "park" it near the wall to avoid obstructing the hallway.

The goal of proper pushing and pulling is to move an object with a minimum of effort or strain. This is done by using your body weight to assist the strong muscles of the legs and trunk.

In the skill laboratory, you should practice the movements of pushing and pulling an object. Given a utility cart or a stretcher to push or pull, you will move the object with minimum effort or strain by using your body weight, trunk muscles, and extensor muscles of the leg.

Important Steps	Key Points
1. Start with a stable base of support.	Check your position for good alignment and balance.
2. Stand close to the object to be pushed or pulled.	This keeps the work close to the body, and also encourages good alignment by reducing distance of reach.
3. Position feet: place them at least 8 inches apart, with one advanced forward in the direction you are working.	This provides for a more stable and wider base of support, as well as leverage.
4. "Set" the trunk and leg muscles.	By now this should be familiar as a guideline to stabilize the body and prepare for action.
5. To push: <i>Lean toward</i> the object to be moved.	The body weight adds greater force to the muscular action and helps to move an object.
6. To pull: <i>Lean away</i> from the object to be moved.	This is done to apply as much force as possible in the direction of the movement by using the body weight.
7. Push or pull by letting your quadriceps (leg extensors) do most of the work.	The extensor muscles of the thigh and the leg do the work. Efficient use of these muscles conserves energy and prevents strain.
U. List two safety precautions to observe if you are pushing or pulling a large object in the hospital corridor.	
1. _____	
2. _____	
V. The goal in pushing or pulling an object correctly is to move it with a minimum of _____ by using the _____ to assist the strong muscles.	

W. What do you do in pushing an object that utilizes your body weight as an additional force?

CONCLUSION

You have now completed this lesson on body movements. You may need to practice some of the movements in the classroom or laboratory to be sure that you can do them correctly and know the reason for each step. When you feel confident that you have learned the body movements and related information, contact your instructor and arrange to take the performance test and the written post-test. You will be expected to perform accurately in the performance test and to be at least 80 per cent correct in the written post-test.

Answers to the foregoing questions may be found on the following pages.

WORKBOOK ANSWER SHEET

- A. 1. It seems lighter when held close to body.
 2. The center of gravity of the book falls within my base of support. (Any similar answer.) (p. 81)
- B. Any three of the following: raise or lower the work surface, raise or lower yourself (use stool, stoop, ladder, etc.). (p. 81)
- C. Stand on same side of bed as the leg with the cast, then move patient to near side of bed. (p. 81)
- D. So it does not contaminate or soil uniform. (p. 82)
- E. 1. Avoid injury to patient or hurting him.
 2. Avoid strain or injury to the worker. (Any order.) (p. 83)
- F. It stabilizes the muscles and joints, prepares the muscles for action, lessens danger of sudden movement or stress causing injury. (Any similar answer.) (p. 83)
- G. Leverage (p. 84)
- H. friction (p. 84)
- I. back (or trunk); balance. (p. 85)
- J. Decreases the distance to be reached. (p. 85)
- K. Spread feet apart to broaden base of support. (p. 85)
- L. Avoids hyperextension of neck and spine; you can see what you are doing. (p. 85)
- M. Flexing; hip and knee joints (p. 86)
- N. Gravity (p. 86)
- O. Rear (p. 86)
- P. Buttocks and thighs (p. 86)
- Q. It allows the heels to lift slightly so pivot turn is easier. (p. 87)
- R. 1. Assisting patient from bed to chair.
 2. Turning to answer phone, pick up chart, etc. (Any answer appropriate for your job.) (p. 87)
- S. It is more stable to carry if its center of gravity falls within your base of support. (pp. 81 and 88)
- T. 1. Don't lift more than is safe; get help; use mechanical lifters.
 2. Shift load occasionally.
 3. Put load down occasionally.
 4. Use proper body mechanics or movements.
 5. Hold object as near midline of body as practical. (Any three of these, or similar answers.) (p. 88)

- U. 1. Watch carefully when going around corners.
- 2. Approach intersections carefully.
- 3. Move equipment down one side of hall or corridor.
- 4. "Park" equipment close to wall to avoid obstructing corridor.
- 5. Use care not to bump into anyone. (Any two of these, or similar answers.) (p. 89)
- V. Effort or strain; body weight. (p. 89)
- W. Lean toward the object being pushed. (p. 89)

PART TWO

PRE-TEST

Circle the letter "T" if you think the statement is more true than false, and circle the letter "F" if you think the statement is more false than true.

- T F 1. Many hospital workers need to do exercises before proper lifting becomes easy and natural for them.
- T F 2. Reaching places a strain on extensor muscles and can easily cause injury.
- T F 3. Carrying objects close to the body decreases muscle strain.
- T F 4. In lifting, a worker uses the strong extensor muscles of the thigh and buttocks.
- T F 5. Friction means to pull down.
- T F 6. The principles of leverage can assist the hospital worker.
- T F 7. The feet should be parallel and approximately 12 to 18 inches apart for proper posture for lifting.
- T F 8. Reaching overhead or away from the body places strain on the back muscles.
- T F 9. In turning the body, it is best to keep the feet securely placed in one position.
- T F 10. An object is easier to carry if it is held out away from the body.
- T F 11. Friction can decrease movement.
- T F 12. Avoid using leverage in patient care because it intensifies the force applied.
- T F 13. A good working height for most workers is about 30 to 32 inches from the floor.
- T F 14. Most hospital beds in the low position are about 30 inches high.
- T F 15. Movement is most effective if it is smooth, rhythmic, and coordinated.
- T F 16. Pushing or pulling an object is easier than lifting and carrying it because this overcomes the resistance of friction.
- T F 17. The gluteal muscles are used in stooping.
- T F 18. The broad, strong back muscles should be used to lift heavy objects.
- T F 19. The extensor muscles of the buttocks and thighs are used to extend the lower extremity in lifting.
- T F 20. Many hospital workers need special exercises before they can stoop and rise easily.
- T F 21. In turning, brace the knees, use a wide stance and turn the trunk (which is very flexible).
- T F 22. The hospital worker, supporting the patient's leg, should be on the opposite side from the examining physician.
- T F 23. The muscles of the back should carry most of the burden in lifting.

PART TWO
PRE-TEST ANNOTATED ANSWER SHEET

- | | |
|----------------------|---------------|
| 1. F. (p. 86) | 13. T (p. 81) |
| 2. T (p. 81) | 14. F (p. 81) |
| 3. T (p. 81) | 15. T (p. 83) |
| 4. T (p. 82) | 16. F (p. 89) |
| 5. F (p. 84) | 17. T (p. 86) |
| 6. T (p. 84) | 18. F (p. 86) |
| 7. T (pp. 80 and 85) | 19. T (p. 86) |
| 8. T (p. 85) | 20. T (p. 86) |
| 9. F (p. 87) | 21. F (p. 87) |
| 10. F (p. 81) | 22. F (p. 89) |
| 11. T (p. 84) | 23. F (p. 86) |
| 12. F (p. 84) | |

PART TWO

PERFORMANCE TEST

In the skill laboratory or your classroom, your instructor will ask you to demonstrate your skills in performing body movements and stating the reasons for each step in the movement. This is to be done without reference to your workbook, notes, or other source materials.

1. Given an activity to perform at floor level, such as wiping up some water or putting a slipper on a patient's foot, you will describe the steps and reasons for each step as you stoop, keeping the body aligned and balanced, and using the large muscles of the thighs and buttocks to return to an upright position.
2. Given an object, such as a heavy book, located on a surface at least 6 inches above your head, you will describe the steps and the reasons for each step as you reach and remove the object without hyperextending or straining your back, or losing your balance.
3. Given a box of books weighing 10 to 15 pounds, or similar object, located on a surface about 32 to 36 inches high, you will describe the steps and the reasons for each step as you lift and carry the box for 5 minutes in such a manner as to minimize fatigue and prevent muscle strain.
4. Given a utility cart, or similar object to push or pull, you will describe the steps and the reasons for each step as you push the cart, utilizing your body weight to assist in the movement.
5. In an activity which requires turning or pivoting, you are to describe the steps and state the reasons for each step as you position your feet and trunk in such a manner as to avoid straining your back or trunk.

PART TWO

PERFORMANCE CHECKLIST

BODY ALIGNMENT, BALANCE, AND MOVEMENT, PART II

STOOPING

The student will demonstrate good body alignment in stooping:

1. Feet apart, one foot slightly advanced.
2. Position provides stable base of support.
3. Lower body to stooped position: back and trunk straight; knee and hip joints flexed.
4. Student is using thigh and leg muscles to control action.
5. Weight shifted to advanced foot and ball of rear foot.
6. Position relieves tension on rear foot and assists in maintaining balance.
7. Raise the body to standing position: back kept straight; move initiated by extending hip and knee joints.
8. Extensor muscles worked to bring body upright.
Identify location of extensor muscles.
Identify names of extensor muscles.

REACHING

The student will demonstrate good body alignment in reaching:

1. Start with stable base of support.
2. Start movement with body in good alignment and balance.
3. Check distance to be reached in order to obtain object. Obtain footstool for use if necessary. Secure artificial aid in order to raise self if necessary.
4. Describe correct use of footstool.
5. Utilize footstool appropriately: line of gravity centered over center of footstool; feet in balanced position.
6. Reach up from position directly in front of object.
7. Lift object from shelf using good alignment procedures.
8. Lower object with smooth coordinated movement.
9. Lower herself from ladder or footstool, if required, using good principles of body alignment.
10. Place object on shelf of working height or stoop and lower it to floor observing good principles of body alignment.
11. Correctly state the rationale for using footstool or artificial aid for increasing height: to avoid hyperextension of the neck; to assist in maintaining balance.

LIFTING AND CARRYING

The student will demonstrate correct body alignment for lifting and carrying.

1. Start with stable base.
2. State that body should be in good alignment before beginning of movement and demonstrate proper body alignment. (Refer to previous checklist.)
3. Grasp object to be lifted and carried in balanced position; state rationale for lifting box in its center of gravity.
4. Set abdominal and arm muscles for action: lift box of books; bring it close to own line of gravity.
5. Carry box near midline of body for period of approximately 5 minutes.
6. Shift box from side to side as required during period of support. State rationale for shifting box appropriately, i.e., to relieve strain on certain sets of muscles.
7. Place box on counter or chair for short periods of time during which student observes rest period. Explain the rationale for utilizing rest period.
8. Complete performance checklist as indicated by lifting and carrying box for period of time not to exceed 5 minutes.

PUSHING AND PULLING

The student will demonstrate correct body alignment in pushing and pulling.

1. Start action with stable base of support.
2. Indicate that good alignment and balance are necessary for pushing and pulling actions.
3. Position appropriately for desired action, observing principles of body alignment and keeping body erect.
4. Position feet at least 8 inches apart with one foot slightly advanced.
5. Set trunk and leg muscles.
6. Lean toward utility cart in order to push. Lean away from utility cart in order to pull. Observe principles of good body alignment during these actions, keeping back straight and erect.
7. Explain rationale for leaning body weight into load.
8. Move utility cart using large muscles of leg and thigh.
9. Identify these muscles, their specific location, and action (see previous performance checklist).

PIVOTING

The student is to demonstrate correct body alignment in pivoting.

1. Stand with feet slightly apart, knees slightly flexed.
2. Explain that this allows a stable base of support for use of leg muscles.
3. Set trunk and pelvic muscles for action.
4. Set thigh and leg muscles.
5. Shift weight to ball of each foot.
6. State that this allows student to lift heel slightly and to pivot more easily.
7. Pivot or make 90° turn on feet.
8. Body moves simultaneously with feet so that there is no twisting of lower back.
9. State that body and feet move together to prevent twisting of back. Explain rationale for this log-type motion, i.e., all parts of body move uniform distance in uniform time.
10. Distribute weight equally on each foot following turn.

Unit 7

INTRODUCTION TO CHARTING

I. DIRECTIONS TO THE STUDENT

Study this lesson thoroughly. Note the word that applies to the part of the body or behavior, then note the terms defining the idea that describes a body part or action. Following this you will find standardized, acceptable, technical terms which may be used in charting. Although the terms suggested for use in charting do not make complete sentences, they are clear, concise, and accurate.

Visualize a situation to be charted, e.g., morning bath given, enema given. Check the sample charting provided, then use the listed terms to write a sample charting assignment. Be prepared to describe an observation, treatment, or situation given by the instructor in acceptable technical terms.

Refer to this lesson frequently for ideas of how to describe the care, treatment, observation, or patient reaction to therapy. Refer to the sample charting provided as a guide.

II. GENERAL PERFORMANCE OBJECTIVE

The hospital worker or nursing personnel will be able to enter a written account of the health history, therapy given, patient reaction to therapy, and observation of a patient situation on a patient's chart. Use of suggested charting terms will provide a safe, legally acceptable account of a patient's situation.

III. SPECIFIC PERFORMANCE OBJECTIVES

Upon completion of this module, the student will be able to:

1. Record legibly.
2. Properly record information pertaining to the patient which will assure safety for the patient, hospital, or health worker.
3. Describe the exact time, effect, and reaction of the patient to therapy or treatment rendered.
4. Describe the character and amount of drainage, vomitus, stools, urine, or hemorrhage (bleeding) from the body.
5. Describe the type, onset, location, and duration of pain.
6. Note the time, visit, examination, and reaction of the patient to the visit of physician or other health worker.
7. Describe the patient's condition — usual, unusual, or changed.
8. Adapt to requirements of different health facility requirements.
9. Use clear, concise terms which plainly describe a situation pertaining to the patient and will be quickly understood.

IV. INTRODUCTION

Charting presents a written picture of occurrences and situations pertaining to a patient. All records are strictly confidential and are not to be read or discussed by anyone except the physician or persons directly caring for the patient in a hospital or medical care facility.

Charting is required for each medication, treatment, or nursing procedure. Accounts of the patient's condition and activities must be charted accurately and in clear, meaningful terms. Terse statements are essential. The chart is a legal document and is the property of the hospital or health facility. The law requires that a record be kept of patient care. Charting must be done so that it is meaningful days, months, or years later if it must be used in court. This is why standardized charting terms are used. Each medical worker knows and recognizes the meaning of these terms and they are not likely to be misconstrued in court. You will practice charting your activities as you complete the specific instructional unit.

Accounts of the patient's condition are hand-printed or written and signed with a hand-written signature of the person doing the charting. Only standard medical abbreviations and terms are used. If you are in doubt about abbreviations, consult a medical dictionary or books of terms and abbreviations.

Viewed from a legal standpoint, charting is one of the most significant duties that the health worker performs. Charting the admission of a patient is especially important because it gives a written picture of the patient when he is admitted. Using the form, one may call attention to many things that otherwise might be forgotten. These things are described in correct charting terms in the nurse's notes, as indicated in the following samples. It is especially important to note all the subjective symptoms and even more important to note all the objective symptoms such as abrasions, burns, pressure sores, or any abnormal appearance of a body part. A notation is also made of the patient's mental condition.

It is essential to note on the chart that the physician was notified of the patient's condition. The time should be noted when he was called and the symptoms or change in a patient's condition that required the call.

It is possible to make an error when charting. Since the chart is a legal document, an erasure is not permitted. If a word is wrong or misspelled, or is written on a wrong chart, one may correct it in the following manner:

error
 10 A.M. ~~Sitz bath given~~ Patient complained of dizziness.
 10 A.M. Shower taken. Feels stronger today.
 M. Jones R.N.

Note that an error was made by writing "Sitz bath" instead of shower. It is legally correct to draw one line through the incorrect word or error and write the word "error" above it, and then proceed with the charting. It is suggested that sample charting be done on scrap paper before writing on the chart until you are sure of how you want to state an account. Words that you are unsure of should be looked up in the dictionary.

Note: If you charted an entry on the wrong chart, you may need to recopy one whole page of notes. Cross out the error as stated above. Place the incorrect page at the back of the chart. Remember *all* charting becomes a permanent part of the patient's legal record. *Never* destroy incorrect charting; it must be kept with the patient's chart. Remember, the original cannot be copied by you unless you sign your name after the original signature, i.e., Jane Doe, RN/Mary White, NA. The preferred method is to have the original writer rewrite his own signature.

V. CHARTING PROCEDURE

Each individual health facility has chart forms which meet the needs of that institution, and you must use the chart forms of the institution in which you work. The collection of

chart forms for an individual patient becomes the patient's chart. Health workers may have different responsibilities for completing chart forms in a specific agency.

Charts vary in different health facilities but include (in some form) the following:

General Forms

1. Physician orders — for physician to write guiding orders.
2. Graphic sheet — for temperature, pulse, respiration, blood pressure, and possibly weight of the patient.
3. Medication sheet — for medications and intravenous fluids.
4. Nurse's notes — for the patient's complaints (subjective symptoms), what you observe (objective symptoms), patient's morale and reaction to therapy, and the nursing care given to the patient.
5. History and physical — for physician to enter findings of examination.
6. Progress sheet — for physicians to keep a continuing account of the patient's progress.
7. Laboratory sheet — for entering returns of laboratory findings.

Special Forms

1. Social history — for patient's name, address, religion, nearest of kin, and other information of this type.
2. Inhalation sheet — for records of oxygen and forced inhalations.
3. Physical therapy sheet — for records of treatments.
4. Consultation sheet — for physicians who are called in to examine a patient for a possible diagnosis.
5. Surgical or treatment consent — for patient to give permission for surgery or treatment.
6. Other — for blood pressure, intake-output, diabetic records, and other individual reports.

VI. GENERAL RULES FOR CHARTING

1. Entries on the patient's chart should be printed or handwritten. After completing the account, sign the chart with one initial and last name, and your title (NA, LVN, RN), e.g., J. Jones, RN; S. Smith, LVN; M. White, NA.
2. Ditto marks may *not* be used.
3. Do not erase. Erasures provide reason for question if the chart is used in court. If a mistake is made, a single line is drawn through the mistake and the word "error" is printed above it. Charting is then continued in a normal manner, e.g.:

10 A.M. ~~S.S. enema given~~ ^{error} Solution returned clear. S. Smith, LVN
 10 A.M. Fleet's enema given. Solution returned clear. S. Smith, LVN

4. Record after completing each task for the patient, and sign name correctly after each entry.

5. Be exact in charting *time, effect, and results* of all treatments and procedures.
6. Describe clearly and concisely the character and amount of drainage, vomitus, stools, and urine. Record patient complaints and general behavior. Describe the type, location, onset, and duration of pain.
7. Note the time of physician's visit, examination, and/or treatments.
8. Leave no blank lines in the charting. Draw a line through the center of an empty line or part of a line. This prevents charting by someone else in an area signed by you.
9. Check with the hospital or health facility to learn the color of ink used for charting. Usually blue or black ink is used since it can be microfilmed. Red ink does not microfilm.
10. Chart time patient leaves the unit for treatment, surgery, or diagnostic procedure, and time of return.
11. Use standard abbreviations.
12. Postoperatively, chart pulse, respiration, blood pressure, general condition of patient, time of reaction from anesthesia, condition of dressing of wound, and other pertinent factors about patient placed in your care.
13. Chart time of death, doctor certifying the expiration, date transferred to mortuary, disposition of patient's belongings, and name of mortuary.
14. Print proper headings on all new pages added to the chart. Addressograph each page.
15. Use present tense. Never use future tense such as "patient to be ambulated." It is not necessary to use the term "patient" on the chart; the chart belongs to the patient, and all notations are about him.
16. Spell correctly. If you are not sure about the spelling of a word, use the dictionary at the desk to look it up.

VII. SPECIFIC CHARTING SUGGESTIONS

Record vital information regarding the patient in the space designated for it. These entries include:

1. General baths and packs — record an accurate description thereof.
2. Dressings — chart the appearance of the wound, drainage, and type of dressing applied.
3. Diet — chart type and amount of food taken, and amount of fluids.
4. Output — emesis, B.M. (bowel movement), wound drainage, urine, perspiration, and amount obtained from suction.
5. Temperature of applied heat, type, how long applied, and where applied; chart cold measures applied, type, how long, and where applied.
6. Infant feedings — amount, time, regurgitation, how taken.
7. Menstruation — note number of pads used, kind of discharge, and odor.
8. Body care — chart hour, back care, care of decubitus (if needed), mouth care, type of bath, and positioning. Indicate special procedures or appliances used. State body positioning and needed supports.
9. Ambulation — chart time, distance, and tolerance.
10. Diagnostic tests — note time, type, unusual occurrences, patient reaction, and outcome.

11. Specimens — identify and label. Chart time and kind sent to laboratory.
12. Patient progress — note time of any change and describe (usually done by physician on this form).
13. Admission — record full name, hospital number, room number, age, B/P, T., P., R., height, weight, allergies, last date cortisone taken, dentures, and contact lenses. Note any prostheses and independent valuables, identification band number, chief complaint, known diagnostic tests, and whether admitted ambulating, by wheelchair or guerny.
14. The time oxygen was begun and discontinued and method used (mask, catheter, or tent).
15. The time, amount, and method of medication given.
16. Sleep — time slept during day as well as at night.
17. The time IV was begun, kind, where given, and number of drops/minute. The time IV was completed, amount, condition of tissue, and patient reaction. (Usually the entry-level nurse would not chart items mentioned in the first statement; in some instances however, she may chart items noted in the second statement.)
18. All procedures accomplished: type, time, outcome, and patient reaction.
19. Any mental symptoms, state of consciousness, convulsions, or untoward behavior. State general attitude, time, place, and outcome.
20. Bleeding or unusual discharge.
21. Surgical preparation.
22. Discharge or death of patient. Follow procedure of health facility and chart all information pertaining to the patient.

UNIT
7

VIII. COMMONLY USED ABBREVIATIONS

Others may be found in a dictionary or books of medical terminology.

Abbreviation	Meaning
aa	of each
abd.	abdomen
a.c.	before meals
ad. lib.	as needed
A.M.	morning
amb.	ambulatory, walking
amt.	amount
approx.	approximately (about)
ax.	axillary (armpit)
b.i.d.	twice per day
B.M.R.	basal metabolic rate
B.M.	bowel movement
B.P.	blood pressure
B.R.P.	bathroom privileges
C.	centigrade
c̄	with
ca	cancer
cc (c.c.)	cubic centimeters
C.D.	communicable disease
cmpd.	compound

Abbreviation	Meaning
clysis	hypodermoclysis (fluid given under skin)
c/o	complains of pain
DC	discontinue
dist.	distilled
dr.	dram (measurement)
ECG (EKG)	electrocardiogram (tracing of heart function)
EEG	electroencephalogram (brain wave tracing)
E.R.	emergency room
elix.	elixir
exam	examination
ext.	extract
F.	Fahrenheit
Fe	iron
fld.	fluid
G.I.	gastrointestinal (stomach and intestinal)
gm.	gram (measurement)
gr.	grain (measurement)
gtt.	drop (measurement)
G.U.	genitourinary (pertaining to organs of reproduction and urinary excretion)
h	hour
hi-cal	high calorie
hi-vit	high vitamin
Hgb	hemoglobin
H ₂ O	water
h.s.	bedtime
invol.	involuntary (without knowledge of)
irrig.	irrigate
I and O	intake and output
IV	intravenous (within vein)
kg.	kilogram (weight)
lab.	laboratory
lb.	pound
liq.	liquid
L.L.Q.	left lower quadrant (left lower section of abdomen)
L.U.Q.	left upper quadrant
m	minim (measurement)
med.	medical (or medication)
mid.	middle
min.	minute
mg.	milligram (measurement)
no.	number
noc.	night
N.P.N.	nonprotein nitrogen (content of blood)
NPO	nothing by mouth (nothing per os)
O ₂	oxygen
O.B.	obstetrics
O.R.	operating room
o.d.	right eye
o.u.	each eye
oz.	ounce
o.s.	left eye
p.	pulse
Ped. or Peds, or Pedi	pediatrics
per	by or through

Abbreviation	Meaning
p.o.	per os or by mouth
post-op	post-operative (after surgery)
p.r.n.	when necessary
pre-op	pre-operative (before surgery)
psych.	psychology
pt.	patient
P.T.	physical therapist
q.d.	every day
q.h.	every hour
q.i.d.	four times per day
q.o.d.	every other day
q.s.	quantity sufficient
r or resp.	respirations
R.B.C.	red blood cell
R.L.Q.	right lower quadrant (right lower quarter of abdomen)
R.U.Q.	right upper quadrant of abdomen
Sol.	solution
sp. gr.	specific gravity (measure)
s.s.	scapsuds
ss	one-half
stat	at once
staph	staphylococcus (germ)
tab	tablet
TL	team leader
TPR	temperature, pulse, respiration
V.D.	venereal disease
via	by way of
W.B.C.	white blood cell
wt	weight

UNIT 7

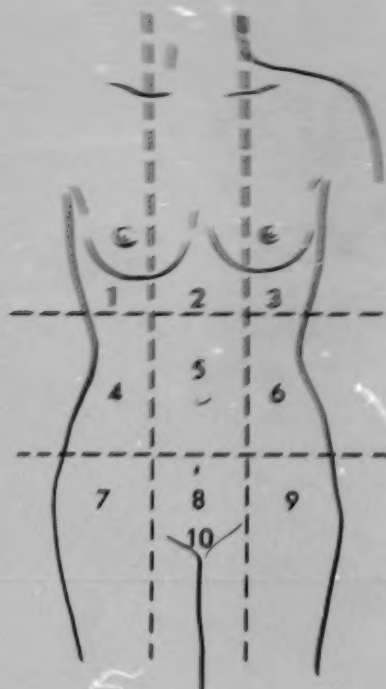
IX. NUMBERS AND SYMBOLS COMMONLY USED IN CHARTING

These are standard and are used most frequently. Others may be found in a dictionary, books of medical terminology, or pharmacology books.

One $\dot{\text{i}}$	Seven $\overline{\text{vii}}$
Two $\ddot{\text{ii}}$	Eight $\overline{\text{viii}}$
Three $\ddot{\text{iii}}$	Nine $\dot{\text{ix}}$
Four $\dot{\text{iv}}$	Ten $\overline{\text{x}}$
Five $\overline{\text{v}}$	Eleven $\overline{\text{xi}}$
Six $\dot{\text{vi}}$	Twelve, etc. $\ddot{\text{xii}}$
and et, +, &	one and one-half $\dot{\text{iss}}$
greater than >	three ounces $\ddot{\text{iii}}$
less than <	two drams $\ddot{\text{ii}}$
dram $\ddot{\text{z}}$	number #, no.
ounce $\ddot{\text{z}}$	with $\overline{\text{c}}$
grain gr	without $\overline{\text{s}}$
one-half $\ddot{\text{ss}}$	

X. ANATOMICAL REGIONS OF THE ABDOMEN

1. right hypochondriac area
2. epigastric area
3. left hypochondriac area
4. right lumbar region (in back and side)
5. umbilical (navel) area
6. left lumbar area (side and back)
7. right iliac
8. hypogastric area
9. left iliac
10. genitourinary area



IX. COMMON DESCRIPTIVE TERMS

Word	Idea to be Charted	Terms Suggested
abdomen	black and blue color noted	bruised (appears), ecchymotic
	bloated; filled with gas	tympanitus, distended
	hurts when touched	sensitive to touch; tender
	hard; boardlike	rigid
	large; extends out	protruding
	soft; flabby; flat	soft; flaccid; flat
amounts	large amount	copious; excessive; profuse
	moderate amount	moderate; usual
	small amount	scanty; slight; small
appearance	thin and undernourished	emaciated
	fat, overweight	obese
	seems very sick	acutely ill
	fails to notice things	apathetic, indifferent
	extremely worried; nervous	anxious, shows anxiety
	appears to have blue color	cyanotic
	extremely happy; fails to accept reality as it is	euphoric
	skin appears yellowish	jaundiced

Word	What to be Charted	Terms Suggested
appetite	craves certain foods	parosmia
	desire to eat material not	
	accepted as food	perverted appetite
	eats everything served and	
	eats for mere food	hearty appetite
	appears never to get enough	
	food	insatiable appetite
	eats all food served	good appetite
	eats little of food served	poor appetite
arm (extremity)	loss of appetite	anorexia
	shoulder to elbow	upper arm
	elbow to wrist	lower arm
	with much extra tissue	plump to obese
attitude	appears puffy or swollen	edematous, edema
	afraid; worried	anxious; fearful
	does not believe what is	
	said	distrustful; suspicious
	fixed idea (right or wrong)	obsession
	behavior that forces self	
	or ideas on others	aggressive
	false belief; insists upon	delusion
	centers attention upon self	introvert
	"don't care" attitude	apathetic
	not interested in	
	surroundings	indifferent
	happy, carefree	cheerful, optimistic
back	seems to feel guilty and	
	worries about unreal	
	things	appears depressed
	upper back	shoulder area; thoracic area; inter-
		scapular
	small of back	lumbar area
	end of spine	sacral area
baths	buttocks	gluteal area
	humped back	kyphosis
	sway back	lordosis
	curved back	scoliosis
	given when patient arrives	admission bath
	entire body	complete bath
	face, neck, arms, back	
belch	and genitals	partial bath
	special bath	state method and materials
	taken in bed	bed bath
	taken in tub or special tub	tub bath or Sitz bath
belch	noise made in mouth area	eructation, burping
bleeding		
	in large amount and in spurts	spurting blood; profuse
	very little	oozing; minimum amount
	nosebleed	epistaxis
	blood in vomitus	hematemesis
	blood in urine	hematuria
	blood in sputum	hemoptysis

Weak	Signs to be Checked	Terms Suggested
throat	throat area on side of the with water	velar
throat pressure	feeling or measuring instrument	B.P. 120/80 (example), strong, weak
bust	each upper arm size	of equal size
	inflammation	redness
	large, hard	engorged
	appears average for person	developed normally
	nipple always depressed	inverted nipple
	period of milk formation	lactation
breath	talking in air	respiration; inspiration
	breathing air out	expiration; expiration
	difficult breathing	dyspnea
	short time without breathing	apnea
	rapid breathing	hyperpnea
	cannot breathe lying down	orthopnea
	snoring sounds of breathing	stertorous respiration
	unpleasant	halitosis
	increasing dyspnea with periods of non-breathing	Cheyne-Stokes respiration; (a ter- minal breathing condition)
	no breath from suffocation	asphyxia
	large amount of air taken	deep breathing
	small amount of air taken	shallow breathing
	abnormal variation of breath	irregular respiration
	sweet, fruitlike odor	fruity, sweet
care	wash face, hands, toilette	A.M. care
	wash face, hands, back, backrub, toilette	P.M. care
	special attention to mouth	special mouth care
	special attention to back	special back care
chest	abnormally shaped	deformed
	looks rounded front and back	barrel-chest
	looks abnormally small	shrunk
chill	came on suddenly	sudden onset
	how long it lasts	duration of (state time); prolonged, short, persistent or intermittent
	extent of chill	moderate, severe, slight
color of	without color	clear, colorless
excretion: urine	normal urine	straw-colored to amber
color of	resembling clay	clay-colored B.M.
excretion: feces	looks black as tar	tarry B.M.
	tinged with blood	blood-tinged
coma	does not respond to stimuli	coma (partially comatose or pro- found coma)

Word	Idea to be Charted	Terms Suggested
~~consciousness~~	aware of surroundings	alert — conversant, fully conscious
	partly conscious	lethargic, semiconscious
	not conscious, but can be aroused	stuporous
	unconscious, cannot be aroused	comatose
	remains together, retains shape	formed
~~excretion~~	running like water	liquid
	thick and sticky	concentrated; viscous
	looks like mucus	mucoid
	muscles contract and relax	clonic tremor or convulsion
~~convulsion~~	muscle contraction maintained for a time	tonic tremor or convulsion
	localized muscle contraction	Jacksonian
	began without warning	sudden onset
	spasm or convulsive seizure	paroxysm
	coughs all the time	continuous
cough	coughs up material	productive
	coughs over long period of time	persistent
	coughs without producing material	non-productive
	coughs with a "whoop"	a whooping cough
	coughs with certain attacks	paroxysmal
decay	various types	loose, deep, dry, painful, exhaus- tive, tight, hacking, hollow
	teeth	caries
	tissue	necrosis, necrotic
defecation or bowel movement	bowel movement	feces, stool, defecation
	excessive	diarrhea
	gray color	clay-colored
	dark, liquid	brownish-black, loose
	soft material	soft, formless or soft-formed stool
	constipated	hard-formed stool expelled with difficulty, pelletlike
dizziness	feeling of being unstable, unsteady	vertigo
drainage	watery — from nose	coryza
	sticky	viscous
	contains pus	purulent
	watery; bloody	sanguineous or sero-sanguineous
	fecal (contains bowel material)	fecal
	contains mucus and pus	mucopurulent
	from vagina after delivery	lochia
dressings	dressing over original one	dressing reinforced
	dressing removed; reapplied	dressing changed
	sterile dressings	sterile dressing applied

Word	Idea to be Charted	Terms Suggested
ears	wax in ears	cerumen
	ringing sensation	tinnitus
	dizziness	vertigo
	abnormal shaped	deformed
emesis	material coming from mouth	emesis
	produced by effort of patient	self-induced
	ejected forcefully without warning	projectile
	blood particles in content	blood-tinged
	material given to produce vomiting	emetic
enemas	liquid given to induce expulsion of feces	cleansing enema
	for nourishment	nutritive
	to rid gas	carminative
	to expel worms	anthelmintic
	to remain for some time	retention
	to soothe and protect	emollient
	for diagnostic exam	barium
expectoration	spitting up saliva	expectorate
	much and/or little amount	profuse and/or small or scant
	spitting up blood	hemoptysis
	mucus with blood particles	blood-tinged
eyes	ability to see well	visual acuity
	nearsightedness	myopia
	farsightedness	hyperopia
	inability to see clearly	blurred vision
	dilation of pupil	enlarged pupil
	small, pin-point, etc.	pupil contracted; "pin-point"
	sees double (two of things)	diplopia
	squinting	strabismus
	puffy; appears swollen	edematous
	drooping eyelids	ptosis
	whites of eyes appear yellow	jaundiced
	appear staring, will not move	fixed
	eyeball appears to stick out of socket	exophthalmia (as in hyperthyroidism or goiter)
	inflammation of socket and lid lining	conjunctivitis
	stye on eyelid	hordeolum
	other terms to describe	burning, smarting, clear, dull, inflamed, sunken, bloodshot, crossed
face	without normal color	pale
	unusually pink	flushed
	broken areas of skin	acne or rash
	black and blue colored	appears bruised
	expressions	defiant, angry, sad, fearful, worried, happy, anxious, dissatisfied, stressful, pained
	scars and pits	pock-marked

Word	Idea to be Charted	Terms Suggested
faint	losing consciousness	syncope
feet	reddened; blistered	pressure area present
	puffy, appears swollen	edematous
	other terms to describe	warm, cold, hot, painful, gangrenous.
fever	no evidence of fever	afebrile
	temperature above normal	pyrexia
	greatly above normal	hyperpyrexia
	elevated temperature suddenly returns to normal	crisis (peak of anything)
	elevated temperature gradually returning to normal	lysis (falling)
fingers	appear square across and curved at the end	clubbed (as in some cardiac conditions)
	coming to fine point at end	tapering
gas	digestive tract appears full (with or without sounds)	flatus
	distention caused by gas	flatulence
gums	tender, inflamed	gingivitis
	pulling away from teeth	receding; shrunken
	other terms to describe	bleeding, spongy, firm, pink
hair	clean, good appearance	clean, glossy
	unclean, coarse	dirty; greasy; coarse
	absence of hair	alopecia
	other terms to describe	tangled, neglected, bleached, dyed, uncombed
hallucination	abnormal senses not observed by others	hallucination
	— hearing	auditory hallucination (voices or sounds)
	— sight	visual hallucination (visual images not observed by others)
	— smell	olfactory hallucination (abnormal odors)
	— taste	gustatory hallucination
hands	abnormally large	massive
	fingers square and curved	clubbed fingers
	shaking continuously	trembling
	other terms to describe	dirty, rough, wet, dry, hot, cold, broken nails
head	forehead	frontal
	near ear	temporal
	side of head at top part	parietal (right or left)
	back of head	occipital
	unusually large head	macrocephalous
	unusually small head	microcephalous
heart beat	irregular beating	arrhythmia
	slow	bradycardia
	fast	tachycardia

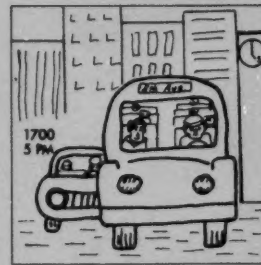
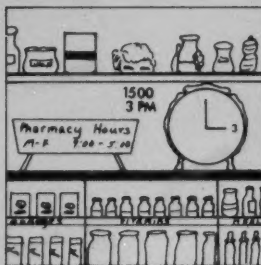
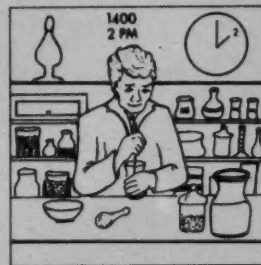
Word	Idea to be Charted	Terms Suggested
hives	hives (raised areas on skin)	urticaria
	itching	pruritus
joints	bent	flexion
	straightened	extension
	turned downward	pronation
	turned upward	supination
	revolve around	rotation
	move away from center line	abduction
	move toward center line	adduction
	stiff joint	ankylosis
	inflammation	arthritis
legs	stretching or wrenching	sprain
	between knee and hip	thigh
	thigh to knee	upper leg
	knee to ankle	lower leg
lice	animal parasites on body	pediculi
	of head area	pediculosis capitis
	of body area	pediculosis corporis
	of pubic area	pediculosis pubis
lips	pale, lacking normal color	pale
	blue in color	cyanotic
	with tiny cracks	fissured; cracked
	blistered appearance	herpes simplex (cold sore)
lungs	abnormal sounds	rales
memory	loss of memory	amnesia
mucous	relates to a sensitive membrane or lining	e.g., mucous lining of the intestinal tract
	relates to drainage from a mucous membrane	clear, yellow, sanguineous (bloody), purulent (pus)
muscle	loss of normal tone or size	atrophy
	inflammation	myositis
	stretching	strain
nails	blue in color	cyanotic
	other terms to describe	clean, dirty, broken, manicured, brittle
nose	nosebleed	epistaxis
odor	not pleasant; pungent; spicy	aromatic
	like fruit	fruity
	unpleasant	offensive; foul
	belonging to a particular thing	characteristic

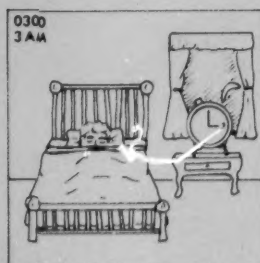
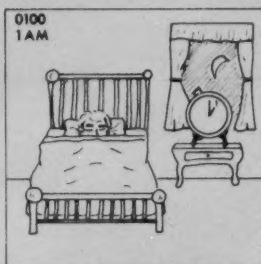
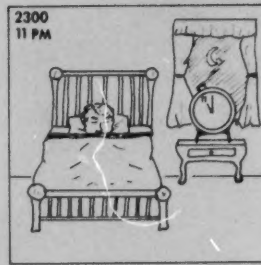
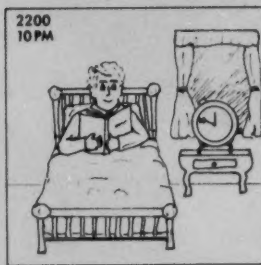
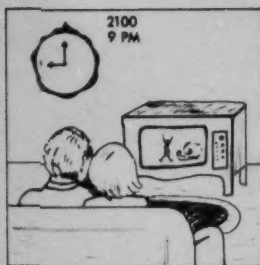
Word	Idea to be Charted	Terms Suggested
pain	much pain	severe
	little amount	slight
	comes in seizures	spasmodic
	spreads to certain areas	radiating
	begins suddenly	sudden onset
	hurts when moving	increased by movement
	other terms to describe	dull, aching, faint, burning, throbbing, gnawing, acute, chronic, generalized, superficial, excruciating, unyielding, cramping, shooting, darting, colicky, continuous, shifting, agonizing, piercing, intense, cutting, transient, localized, remittent, persistent
paralysis	face muscles unable to move	facial paralysis
	leg muscles unable to move	paraplegia, right or left
	one side of the body	hemiplegia, right or left
	four extremities unable to move	quadriplegia
	single limb unable to move	monoplegia
perspiration	large amount	profuse, excessive
	small amount	scanty or slight
positions of the body	flat on back	dorsal
	on left side (right leg flexed)	Sims'
	dorsal, head elevated, knees out	semi-Fowler's
	on back with heels brought close to buttocks; knees bent	Lithotomy
	on back; knees flexed	dorsal-recumbent
	resting on knees and chest	knee-chest
	on back; pelvis higher than head	Trendelenburg
	on abdomen; head turned to one side	prone
pulse	force of blood exerted against artery wall	(taken at) radial, temporal, femoral, pedal, carotid, apical
	number of beats per minute	rate
	rhythm	regular or irregular
	beat missed	intermittent
	over 100 per minute	rapid
	slow in rate	slow
	beats indistinct (rapid)	running
	beats hardly perceptible	thready
	rapid, distinct beats	bounding
sensation	cannot be felt	imperceptible
	feeling experienced	tingling, burning, stinging, pricking, hot, cold

Word	Idea to be Charted	Terms Suggested
skin	terms to describe	pale, red, moist, dry, clear, coarse, tanned, scaly, thick, loose, rough, tight, infected, discolored, jaundiced, mottled, calloused, edematous, excoriation, abrasion, bruised, oily, painful, scarred, black, brown, white, pink, clammy, rash, wrinkled, smooth
sleep	unable to sleep	insomnia
	tired when awakens	awakes fatigued
speech	unable to be understood	incoherent
	meaningless	rambling
	runs words together	slurring
	difficulty in speaking	dysphasia
	unable to speak	aphasia
	other terms to describe	stammering, stuttering, hoarse, feeble, fluent
symptoms	observed by the patient	subjective
	observed by others	objective
teeth	false teeth	dentures
	decay	caries
	collection of material on	sordes
	other terms to describe	decayed, notched, crooked, protruding, broken, loose, irregular, dirty
tongue	terms to describe	dry, furrowed, cracked, raw, coated, swollen, ulcerated, pink, inflamed
throat	difficulty in swallowing	dysphagia
	inability to swallow	aphagia
treatment	to prevent	prophylactic
	to give temporary relief	palliative
urination	pass fluid from bladder	void; micturate, urinate
	unable to control	incontinent; involuntary
	large amount	diuresis
	no urine passes	anuria
	frequent night urination	nocturia
	frequent and much urination	polyuria
	pus in urine	pyuria
	blood in urine	hematuria
	sugar in urine	glycosuria
	albumin in urine	albuminuria
	scantiness of urine	oliguria
	wetting bed	enuresis
	stones in urine	calculi
	other terms to describe	cloudy, with sediment, straw-colored, coffee-colored, excessive amount

Word	Idea to be Charted	Terms Suggested
wounds	surface	superficial
	without infection	clean wound
	pus discharges from	suppurating
	infected	infected
	torn	lacerated
weight	overweight	obese
	thin, underweight	emaciated

In most hospitals, charting of the time on patient's records is done according to military practice. The following illustrations indicate how to calculate military time, beginning with 12 noon. Quarter hours and half hours are stated in the usual manner, however.





XII. ADDITIONAL INFORMATION FOR ENRICHMENT

Legal action may be taken against a person who falsifies a patient's chart. Legal action may also be taken against a person who helps falsify a chart. Information of this sort includes:

1. Concealing real nature of an operation.
2. Deceiving insurance companies.
3. Concealing information to protect a doctor or hospital from consequences of a mistake.

Charts may or may not be requested as a part of a court proceeding. To be legal and accepted as evidence, charting must be signed. This chart is a part of the hospital or health facility, and families should not read it.

A patient may decide to leave the hospital without stated permission from the attending physician. It is the duty of the health worker to ask the patient to sign a "release" paper supplied by the health facility and enter such action in the chart.

A signed consent form for an operation is a legal requirement, and the health worker is responsible for getting such a form signed by the patient and entering it in the patient's chart.

Accurate charting of medicine and treatment is as important as their correct administration. The nature of these measures may lead to litigation if correct administration and charting are not carried out.

Charting is currently done in most hospitals, but in the near future large hospitals will probably convert to the "computer" system; entering information in a patient's chart will therefore be the duty of one person assigned to that task. However, information will still be required from the health worker and must be supplied in terms indicated in this module.

INTRODUCTION TO CHARTING WORKSHEET**Item A**

Explain what the following forms are used for: Refer to page 101.

1. Physician order sheet. _____

2. Graphic sheet. _____

3. Medication sheet. _____

4. Nurses notes. _____

5. History and Physical. _____

6. Progress sheet. _____

7. Laboratory sheet. _____

Item B

Read the sample charting given to you. Identify the charting errors and then chart the information correctly on your copy of St John's Hospital Nurses' notes. Refer to pages 101, and 102 for the "General Rules for Charting."

Item C

Define the following abbreviations. Refer to pages 103-105, "Commonly Used Abbreviations."

1. PRN _____
2. H.S. _____
3. N.P.O. _____
4. stat _____
5. ax _____
6. q.d. _____
7. b.i.d. _____
8. cc. _____
9. E.C.G. _____
10. NOC _____

Item D

Define the following terms. Refer to pages 106-115; "Common Descriptive Terms."

1. Admission bath _____
2. hearty appetite _____
- 3 Lumbar area of back _____
4. "Don't care" attitude _____
5. thigh _____
6. upper leg _____
7. lower leg _____

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INTRODUCTION TO CHARTING

SAINT JOHN'S HOSPITAL
SANTA MONICA, CALIFORNIA

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Unit 8

HANDWASHING TECHNIQUE FOR MEDICAL ASEPSIS

I. GENERAL PERFORMANCE OBJECTIVE

Employ the correct technique for washing the hands at all appropriate times, as a means of maintaining standards of cleanliness that will minimize the risk of contracting or transmitting infections.

II. SPECIFIC PERFORMANCE OBJECTIVES

The student will be able to:

1. Name the routes by which bacteria can be transmitted, recognize the conditions that are favorable and unfavorable to their growth, and take appropriate handwashing precautions against bacterial contamination.
2. State at least five circumstances that necessitate washing the hands, as a result of direct or indirect contact with contaminated materials.
3. Wash the hands without any contamination of hands, body, or clothing.
4. Adjust water to the proper warm temperature for washing the hands.
5. Apply soap and water in the proper quantities for washing the hands, fingers, wrists, and forearms in the proper sequence.
6. Use the proper rotary and frictional movements to apply firm, even pressure to each area as it is washed.
7. Rinse hands and forearms in the proper manner.
8. Clean fingernails and skin folds properly.
9. Dry hands carefully to prevent chapping.
10. Explain and demonstrate correct handwashing technique to others.

III. VOCABULARY

It is essential to the understanding of this lesson to learn the definitions of the following words.

abrasion — an injury resulting from scraping away a portion of skin or mucous membrane.

antiseptic — preventing or arresting the growth or action of microorganisms.

asepsia — a condition free from germs, sterile.

bacteria — one-celled microorganisms, some of which cause disease.

contaminate — to render unclean or unsterile.

debris — rubbish or ruin.

friction — rubbing one thing against another.

genito-urinary — pertaining to the organs of reproduction and excretion.

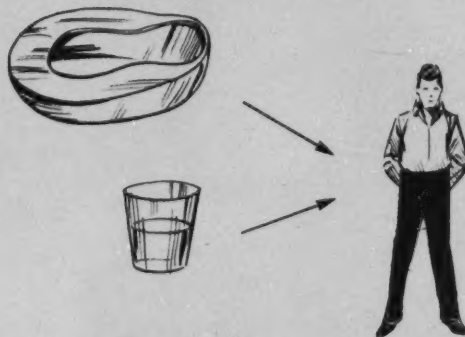
microorganism — minute (small) living body not visible to the naked eye.
 palm — concave area of the hand between base of fingers and wrist.
 rotate — to turn.

IV. INTRODUCTION

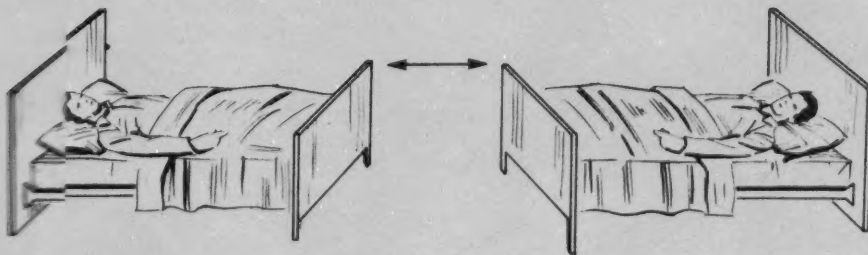
Hands carry germs. Germs are called microorganisms. Microorganisms are very small objects, much too small to be seen with the naked eye. They are seen through an instrument called the *microscope*. Bacteria are one-celled microorganisms, some of which cause disease. Disease-producing bacteria are referred to as *pathogenic*. Dirty or contaminated articles or surfaces provide an optimum environment in which the pathogens can grow and multiply. Infections are caused by disease-producing microorganisms (pathogens) which invade the tissues of the body and set up a chemical reaction which causes the tissues to react. Some common pathogenic organisms you will be hearing about are *streptococcus*, or "strep infection," and *staphylococcus*, or "staph infection."

Microorganisms which do not produce disease are referred to as *non-pathogenic*. Some of the common non-pathogenic organisms are: *Escherichia coli* (*E. coli*) and *Proteus vulgaris*. They are both normal, harmless residents of the intestinal tract. However, if these organisms get into another part of the body (such as the bladder or an open wound), they may cause an infection.

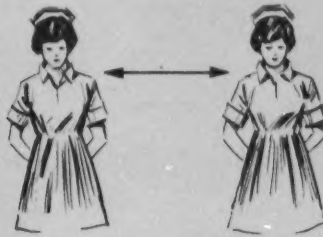
The five most common methods of disease transmission are the five fingers! The fingers on your hands carry the germs (or microorganisms) to the mouth, nose, eyes, and to other people. Microorganisms can be spread in several ways:



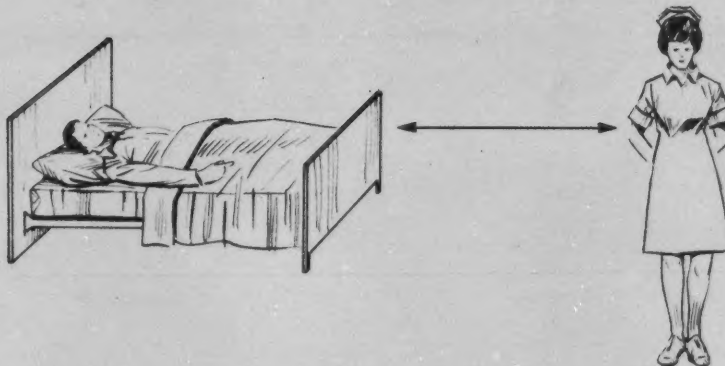
Hospital equipment to patient or worker.



Patient to patient.



Worker to worker.



Worker to patient.

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Microorganisms can enter the body through the mouth and nose, the genito-urinary tract, or through breaks in the skin. Breaks in the skin are frequently the means by which microorganisms enter the body. Germs are everywhere: in the air, in the soil, in the water, on plants, on food and animal life, as well as in or on human beings! Therefore, if the skin is broken, the first line of defense is broken, and germs may then enter the body.

Because germs (bacteria, microorganisms) are living organisms, they need the following environmental conditions to help them live and grow — just as you do. They are:

Moisture: Needed in the process of nutrition to break down solid food particles to permit their utilization as nutrients for the body cells. Moisture also enables waste materials to be expelled from the body.

Food: Needed to assist in the growth process of the organism.

Oxygen: Most living organisms need an oxygen supply to live, but there are some organisms which do not; they are called *anaerobic* (without oxygen). Some common anaerobic pathogens you may have heard about are *tetanus* and *gas gangrene* organisms.

Temperature: The normal body temperature (98.6°F.) is the best temperature for most bacteria to grow and multiply. High temperatures (over 170°F.) kill most bacteria. Therefore, heat in various forms is often used to disinfect objects: to kill the germs, in other words. Below-freezing temperatures (under 32°F.) inhibit the growth of bacteria, although many bacteria will not be killed in this manner.

Darkness: Most bacteria die when exposed to light; they multiply rapidly in darkness. This is why airing and sunning of articles from a patient's home or room are highly effective ways of killing germs.

One of the most critical tasks you will encounter in the health field is providing an optimum environment for both your patient and you. A clean, dry, light, and airy atmosphere goes a long way toward preventing the growth of germs or killing those which already exist.

One of the simplest techniques we have in the health field to prevent the spread of disease and germs is the *Handwashing Technique*. It is a safety skill not only for you personally, but for your patient, co-workers, visitors, and your family. It assists in protecting you and others from the spread of infections and disease. You will wash your hands before and after doing any procedures that involve direct or indirect contact with a patient, after contact with any wastes or contaminated materials, before handling any food or food receptacles, and at any other time your hands could become soiled.

SPECIAL INSTRUCTIONS

Jewelry may not be worn. The only exception is a plain wedding band. Bacteria become lodged in the sets or stones of the ring. Fingernails should be clean and well-trimmed. By complying with these two requirements, you will decrease the opportunity for bacteria to accumulate under the fingernails, which in turn can be spread to other persons. Proper hand care prevents hangnails and skin abrasions from occurring. As you know, these are breaks in the skin and therefore they enable germs to enter your body and also harbor germs.

Liquid soap. Soap combines with foreign matter on the skin and lowers the surface tension (clinging effect) of grease and dirt, thus permitting them to be easily removed from the skin surfaces. When an investigation was made of soap dishes and bar soaps in use, many bacteria were found growing on them. Thus the bar of soap itself can become a germ-carrier! After use, be sure to rinse the soap before returning it to the soap dish. This minimizes the germ accumulation for the next person. In health agencies, bacteria-inhibiting (bacteriostatic) liquid soaps are preferred, such as pHisoHex. Its main ingredient is hexachlorophene*, a bacteriostatic agent that has a cumulative effect, i.e., the longer the film of hexachlorophene remains on the skin, and the more frequent the applications through repeated handwashings, the fewer bacteria there will be on the skin. Hexachlorophene is usually non-irritating to the skin. Others may also be used.

Running water. Running water carries away dirt and debris. If a water faucet is not available, secure a pitcher of clean water and ask someone to pour the water over your hands and forearms.

Paper towels. Paper towels are best because they are disposable. If only cloth towels are available, secure a pitcher of clean water and ask someone to pour the water over your hands.

Container for soiled towels. Wastebaskets should be placed beside each lavatory for paper towel disposal. Linen hampers should be available in each wash area where linen towels are used.

*An article in the April 3, 1971, edition of the Los Angeles Times reported that hexachlorophene was found to be toxic to the central nervous system in laboratory animals.

PROCEDURE FOR TWO-MINUTE HANDWASH FOR MEDICAL ASEPSIS

1. Approach the sink.

Stand in a comfortable position, leaning slightly toward the sink. Maintain good body alignment. Prevent clothes from touching the sink; usually there are many bacteria in and around the sink area. You must therefore avoid contaminating your uniform by contact with the sink. Prevent splashing of water and getting your uniform wet. Remember that bacteria thrive in moist surroundings; they grow and multiply rapidly.

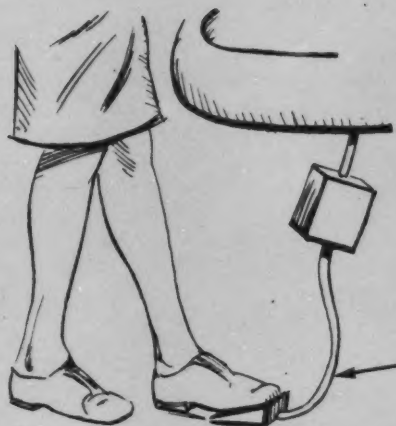


2. Turn on water.

The water must run continuously throughout the handwashing procedure. You may find one of three main types of faucets at your agency: *hand-operated* — use a paper towel to protect your hands when turning on the faucet, then discard the paper towel promptly.



A sink with a *foot pedal* is preferable because it enables you to turn on the water and regulate the flow without contaminating your hands.



A sink with elbow levers is used frequently in hospitals, particularly in the operating room area. This type of faucet also prevents contaminating your hands.

3. *Adjust temperature of the water.*

Warm water makes better suds than cold water and is preferred to hot water because it removes less protective oil from the skin. Extremely hot or cold water tends to dry the skin. With repeated washing, your skin may become chapped or cracked, thus providing the prime site for germs to enter the body.



4. *Wet hands with water.*

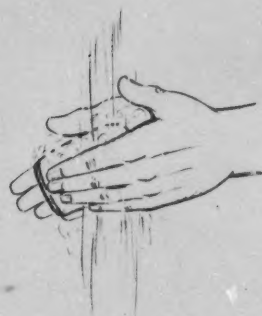
Hold hands down toward the sink, lower than the elbows. Water will then drain from the wrists to the fingertips and carry the bacteria away. Be sure not to contaminate your hands by touching the inside of the sink or the faucets.



5. *Apply soap (or detergent).*

Use approximately 2 to 4 cc. (one teaspoon) of a liquid soap, which has fewer germs than bar soap and combines more easily with dirt, thus making it a more effective cleaning agent. Bar soap may retain bacteria; when used, rinse it before returning it to the soap dish, which should be the type that permits the bar of soap to dry on all sides before reuse. (Remember that dry surfaces help to stop the growth of bacteria.)

Note: If you accidentally drop the bar of soap on the floor while washing your hands, you must pick it up, rinse it thoroughly, and then begin at Step 1 of the handwashing procedure!



6. Wash hands.

This step will take about 30 seconds. Use *friction* (strong rubbing movements) and *rotary* (circular) motions. Friction and rotary action dislodge bacteria from your hands.

Wash the palm and back of each hand with 10 rotary motions. Be sure to apply a firm, even pressure to maintain effective friction to dislodge the soil.



Wash fingers with 10 rotary motions. The fingers and thumbs should be interlaced. Rotation back and forth in this position cleans the interdigital spaces between the fingers quickly and efficiently.

Total of 30 seconds: 10 seconds for palms; 10 seconds for back of hand; and 10 seconds for fingers.

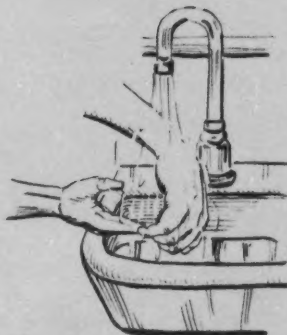


7. Rinse well.

Running water should be directed so that it flows from the wrists down to the fingers, thus carrying the suds and soil down the drain.

8. Moisten wrists and forearms again.

Use the right amount of liquid soap, about one teaspoon. Since the wrists and forearms also may come in contact with bacteria, they should also be washed. Wash one wrist and forearm for 10 to 15 seconds using firm rotary and friction action. Then wash the other wrist and forearm in the same manner, moving from the wrist up toward the elbow. Total strokes for both arms = 30.



9. Rinse arms and hands.

Again, remember to drain the water from the forearm to your fingertips.

10. Repeat handwashing (60 strokes).

Use procedure in Steps 5 through 9. All remaining bacteria and soil should now be gone.

11. Inspect knuckles.

The knuckles frequently harbor an excess of bacteria and germs in the folds of the skin and thus may need additional attention. If so, cleanse with soap using firm friction and rotary action.

12. Clean fingernails.

An orange stick or a curved end of a flat toothpick will remove the dirt and help prevent breaks in the skin; discard it after use.

Note: Fingernails should be cleaned at the beginning of your tour of duty and as needed during the shift. Normally, it will not be necessary to clean them each time you wash your hands throughout the day.

13. Dry hands well.

Because you wash your hands many times throughout your tour of duty, it is necessary to dry them very gently and carefully to avoid chapping or drying the skin. Chapped skin frequently breaks open, thus permitting bacteria to enter your system.

14. Turn off running water.

Use paper towel to turn off hand faucet. Discard towel in the wastebasket.

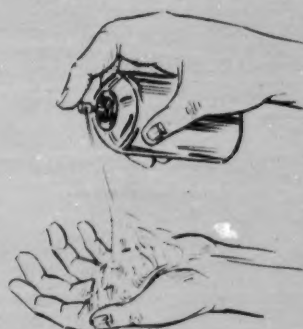
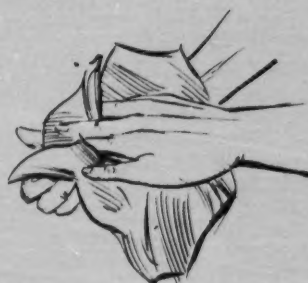
15. Apply lotion.

Apply lotion as desired to keep your skin soft.

16. Return used equipment.

Used equipment should be returned to proper storage area, or returned to appropriate area for reprocessing. Wipe area surrounding sink with a paper towel. Remember that germs thrive on moist surfaces! Discard paper towel in wastebasket. A clean, dry environment promotes health.

Note: Recommended handwashing routine time schedule: 2 minutes (120 strokes) at beginning of each tour of duty; 30 seconds (30 strokes) between visits with non-grossly contaminated patients; 60 seconds (60 strokes) after caring for grossly contaminated patients.



ENRICHMENT*The Nature of Bacteria and Microorganisms*

There are many kinds of microorganisms; bacteria represent one type.

You have learned that handwashing is a way of preventing spread of bacteria and microorganisms, to protect the patient, others, and yourself.

It was stated that bacteria enter the body through the mouth, nose, and the genitourinary tract. Each of these tracts has secretions which serve as barriers to bacteria. Threadlike *cilia* (hairs) and the mucous membrane of the nose are so effective in removing dust and bacteria that the lungs are kept relatively free of these microorganisms. There is an acid reaction to urine and vaginal secretions which prevents growth of most bacteria in the genitourinary tract. Digestive juices kill some of the bacteria that enter through the mouth, and the mucous membranes of the intestines are effective in keeping bacteria from invading the tissues.

One kind of bacteria that is generally found on the skin is the staphylococcus (plural, staphylococci); it is commonly called "staph." This is disease producing and all health facilities are plagued by it. When this "staph" gets into the body (through a break in the skin), it may cause a local infection and/or soreness with pus. It may affect the entire body once it enters the blood stream, and those afflicted with it feel very ill. Staphylococcus causes such ailments as boils, styes on eyelids, infections in surgical wounds, infections around fingernails, and food poisoning.

Antibiotics are used to fight this type of infection, but staphylococcus is very resistant to most antibiotics and often makes the patient very ill.

Staphylococci are present on the skin most of the time, even when you are in a state of good health. This is one reason why handwashing is so important. Like all bacteria, "staph" thrives in moist, dark places; sunlight is its enemy because it dries and dies when exposed to direct sunlight for a given time. Remember to wash your hands well and often and to dry them thoroughly.

POST-TEST A

Part I Directions: True/False. If the statement is true, circle the letter T at the left of the statement; if the statement is false, circle the letter F.

- T F 1. You can spread microorganisms to another person without touching him.
- T F 2. Initially the hands should be washed after washing the forearms.
- T F 3. Human fingers are the most common means of spreading microorganisms.
- T F 4. If the hands must be washed frequently, it is best to use cold water to prevent chapping of the skin.
- T F 5. Hands should be held level with the waist during the handwashing procedure.
- T F 6. Your hands and body should not touch the sink at any time during the handwashing procedure.
- T F 7. The palms of the hands should be washed before washing the hands.
- T F 8. An infected person can spread his infection to animals, food, clothing, and other objects as well as to people.
- T F 9. When washing the hands, water should not be allowed to flow down from the forearms over the palms.
- T F 10. Bacteria that enter the body through breaks in the skin are more dangerous than bacteria that enter through the nose and mouth.

Part II Directions: Short-Answer/Completion. Please write your response in the space provided.

1. List four circumstances which necessitate handwashing.

2. Please write a brief statement explaining why ornate rings should not be worn by health care workers.

POST-TEST A ANNOTATED ANSWER SHEET**PART I**

1. T p. 125
2. F p. 128
3. T p. 124
4. F p. 128
5. F p. 128
6. T p. 127
7. T p. 129
8. T p. 124
9. T p. 128
10. F p. 124

PART II

1. (a) Prior to handling food or food receptacles.
(b) Before and after using the bathroom.
(c) Before and after any procedure that involves direct or indirect contact with a patient.
(d) After contact with wastes or contaminated materials. p. 126
2. Bacteria may become lodged in the set or stones of jewelry. p. 126

POST-TEST B

Part I Directions: True/False. If the statement is true, circle the letter T at the left of the statement; if the statement is false, circle the letter F.

- T F 1. Microorganisms must have food, moisture, and air to survive.
- T F 2. A dry bar of soap usually contains fewer bacteria than a moist one.
- T F 3. Your hands and body should not touch the sink at any time during handwashing.
- T F 4. Bacteria that enter the body through breaks in the skin are more dangerous than bacteria that enter through the nose and mouth.
- T F 5. You can spread microorganisms to another person without touching him.
- T F 6. Human fingers are the most common means of spreading microorganisms.
- T F 7. The palms of the hands should be washed before washing the fingers.
- T F 8. All soap film on the hands should be removed by thorough rinsing.
- T F 9. The fingertips usually contain more bacteria than other parts of the hands.
- T F 10. An infected person can spread his infection to animals, food, clothing, and other objects as well as to people.

Part II Directions: Short-Answer/Completion. Please write your response in the space provided.

1. List five environmental conditions which facilitate the growth of microorganisms.

2. List two reasons for washing your hands in warm water.

POST-TEST B ANNOTATED ANSWER SHEET**PART I**

1. T p. 125
2. T p. 126
3. T p. 127
4. F p. 125
5. T p. 124
6. T p. 124
7. T p. 129
8. T p. 129
9. T p. 124
10. T p. 124

PART II

1. (a) Moisture p. 125
(b) Food p. 125
(c) Oxygen p. 125
(d) Appropriate temperature range p. 125
(e) Darkness p. 126
2. (a) Warm water makes better suds than cold water. p. 128
(b) Warm water removes less protective oil from the skin than hot water. p. 128

PERFORMANCE TEST

Handwashing Technique for Medical Asepsis

In the skill laboratory you will correctly demonstrate the handwashing procedure, carefully observing the proper sequence of steps listed in the procedure.

PERFORMANCE CHECKLIST

HANDWASHING TECHNIQUE FOR MEDICAL ASEPSIS

The student will demonstrate correct handwashing technique.

1. Stand away from sink so as not to have clothing in contact with sink.
2. Turn water on; adjust to warm temperature. Keep water running during entire procedure.
3. Wet hands.
4. Apply soap thoroughly; under nails and between fingers.
5. Wash palms and backs of hands with strong frictional motion (10 rotary movements for at least 20 seconds).
6. Wash fingers and spaces between them, interlacing fingers, rubbing them up and down for 10 seconds (10 strokes).
7. Wash wrists and above wrists three or four inches, using rotary action (10-15 times).
8. Repeated steps 4-7 (completion of 2-minute scrub, 120 strokes).
9. Pay special attention to problem areas.
10. Rinse well; run water from wrists to fingers (final rinse).
11. Dry thoroughly with paper towel from wrists to fingertips.
12. Turn off water with paper towel and discard towel in receptacle.
13. Use hand-lotion if desired.

Unit 9

MAKING HOSPITAL BEDS

I. DIRECTIONS TO THE STUDENT

Please read the following paragraphs carefully. They will tell you what you will be expected to do and know at the end of this lesson. After you have read the unit and have seen a film or demonstration on bedmaking, much of your time will be spent in practicing in your classroom or skill laboratory. As you practice operating the hospital bed and the procedures of making a hospital bed, you are to use the principles of body alignment, balance and movement that you learned earlier. If you are not sure of your body alignment, principles of balance, and the proper way to move, you may wish to review the unit on Body Alignment, Balance and Movement for Health Workers, Parts I and II.

When you have completed the unit and practiced the procedures, you should arrange with your instructor to demonstrate your skills in operating the hospital bed and making a hospital bed for various purposes. All students are expected to pass the performance test by demonstrating their skills in carrying out the procedures.

II. GENERAL PERFORMANCE OBJECTIVE

Upon completion of this unit, you will be able to prepare the unoccupied (closed), occupied, and anesthetic hospital bed in a way that presents a neat appearance, remains intact with use, and provides a safe and comfortable environment for the patient. You will also be able to operate the controls of the bed in order to adjust the position of the bed as may be required.

III. SPECIFIC PERFORMANCE OBJECTIVES

When you have completed this lesson, you will be able to:

1. Adjust manually operated and electrically operated beds to the positions used during bedmaking and the positions appropriate for completed beds, raising or lowering sections of the bed in the proper sequences, without errors in the selection and operation of the controls.
2. Make an unoccupied bed starting from the bare mattress, by selecting the appropriate bed linens that are required, placing these items correctly and securely on the bed, and adjusting the bed in the appropriate position. This must be accomplished in six minutes or less.
3. Make an occupied bed (with a patient in it who is able to move without assistance) by selecting the appropriate bed linens that are required to change all but the top linen, by giving the patient the correct directions for moving, and by adjusting the bed in the proper position for your work.
4. Make an anesthetic or surgical bed by selecting and using the appropriate items of bed linen, with the top bedding pie-folded or fan-folded on one side of the bed to permit easier transfer of a helpless patient into the bed, and then adjust the position of the bed appropriately, in six minutes or less.

IV. VOCABULARY

- anesthetic bed** (post-operative, recovery, or surgical) — a bed made with top linens folded in way as to permit easy, rapid transfer of a patient from a stretcher to his own bed.
- such a**
- closed bed** — a clean bed with linens on it ready for a newly admitted patient. Top spread covers the entire bed and protects the bottom linens from dust, etc., until occupied by a patient.
- contour** — the head, knee, and the foot of the bed elevated.
- drawsheet** — a special sheet (rubber, plastic, or cotton) which is about one-half the size of a regular sheet and is placed across the middle third of the bed to protect the bottom sheet from soiling. May be used to assist in moving heavy patients.
- foundation sheet** — the bottom (lower) sheet placed directly over the mattress pad or the mattress.
- Fowler's** — the head of the bed elevated 45° or more.
- Gatch** — the notch which fits into a ratchet on the underframe of the bed to maintain it in a sitting position. The Gatch Bed was named after Dr. William Gatch, an American surgeon, who invented it in the late 1800's.
- hyperextension** — the head and the foot of the bed lowered so that the middle section is at an angle of *not more than* 15° .
- miter** — a method of making equal angles so that sheets, blankets, and bedspreads fit corners properly and hold firmly.
- occupied bed** — a patient lying in the bed with the complete linen complement.
- pleat (tuck)** — a folding over, or double layer of material; a method of providing additional top linens on a bed to permit free movement of the patient's foot and toes.
- reverse Trendelenburg** — head elevated and the foot section of the bed lowered.
- taut** — tense, or pulled tightly.
- Trendelenburg** — the head of the bed lowered, and the foot of the bed elevated.
- semi-Fowler's** — the head of the bed elevated 45° or more and the knee section elevated 15° .

V. INTRODUCTION

Patients in a hospital spend a great part of their time in bed. The condition of the bed will influence the way the patient feels and the way he behaves. Wrinkles and bumps in the foundation part of the bed and improperly placed top covers may cause the patient to feel uncomfortable and to become irritable. Hospital beds can be made skillfully so that wrinkles are reduced and the bed is comfortable for the patient.

A hospital bed must also be made so that it is easy for the patient to get into it despite physical disabilities he may have. The bed must be made so that it will be easier for hospital workers to put a helpless patient in bed. This may require adjusting the position of the bed and making the bed in special ways. The patient's condition and the usual procedure used by the hospital are considered when determining the method to use for making the bed.

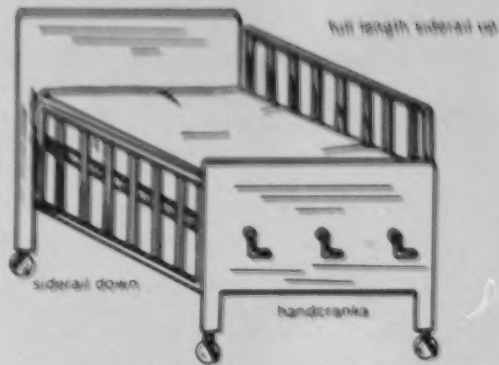
Many of the patient's activities are carried on while he is in bed, e.g., various medical treatments, eating, elimination, bathing, or diversional activities. A comfortable and relatively wrinkle-free bed contributes to the patient's feeling of well-being.

In this unit, you will learn how to operate manually or electrically controlled beds and to place the bed in various positions. There are routine ways of making beds in hospitals so that they are made efficiently and in uniform ways, present a neat appearance, and meet the needs of most patients. You will learn how to make an unoccupied and closed bed, an occupied bed, and an anesthetic or surgical bed.

ITEM 1: FUNCTIONS AND STRUCTURES OF HOSPITAL BEDS

Manually Operated Bed. The manually operated bed requires effort and muscle power. When operating this bed by hand, it is essential that you use good body alignment and movements.

The manually operated bed has hand-crank at the foot of the bed which are used to adjust the position of the bed. The most common positions used with this bed are the flat, the Fowler's, and the semi-Fowler's positions. (These are described on page 142.)



Manually operated bed.

To raise the head of the bed: turn the hand-crank on the left foot side in a clockwise (right) direction until the head of the bed is at the desired height.

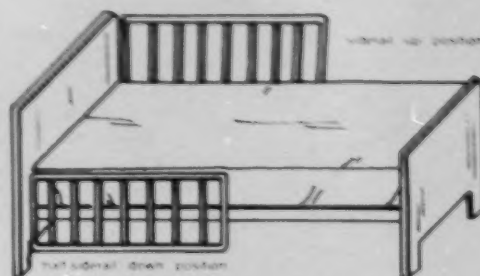
To lower the head of the bed: engage the same hand-crank and turn it counterclockwise (to the left).

To raise the knees: engage the hand-crank at the right foot side and turn clockwise (to the right) until the knees are at the desired height.

To lower the knees: engage the hand-crank and turn counterclockwise (to the left).

To raise and lower the entire bed: engage the center hand-crank and turn it clockwise to raise the bed and counterclockwise to lower the bed. Not all manually operated beds have the third crank; those without cannot be raised or lowered.

Siderails. Siderails are used to provide for the safety of the patient and are in no way to be considered a restraint. Siderails range in size from half of the bed side to the full length. (See accompanying sketch for the half siderail.) Each type of siderail has special levers for raising or lowering; check with your agency for proper instructions.



UNIT 9

Siderails are used to:

1. Decrease the number of patient falls out of bed.
2. Prevent the restless patient from falling out of bed.
3. Remind the patient that he is near the side of the bed and may be in danger of falling off the edge.
4. Help the patient to lift or turn himself.
5. Provide security to the patient without causing him to feel penned in.
6. Assist ambulatory patients to get into and out of bed safely.
7. Provide the patient with a support to grasp and hold when moving about.

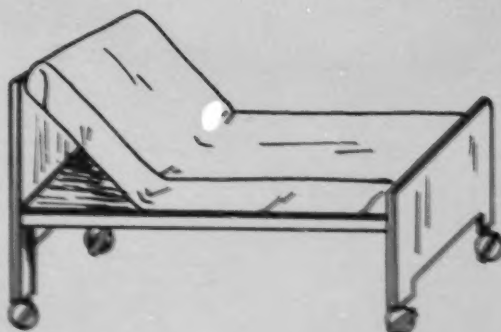
Electrically Operated Bed. The electric bed was first introduced in 1956. Before that time, manually operated (by hand) beds were used. The electric bed is operated by a motor that adjusts the bed to the desired position for treatment or for comfort. The patient may operate the bed controls by touch, unless the controls have been purposely locked to insure a prescribed position.

There are minor variations among electric bed control systems, depending on which manufacturer produces them. These controls may be located in various places on the bed, and may consist of levers or push-buttons that raise or lower the bed. You should check with your agency for the specific method and procedure to adjust the position of the electric bed used.

ITEM 2: BED POSITIONS

Most hospital beds can be adjusted to meet various needs of the patient for treatment or comfort. Some of the common positions are:

Fowler's. Backrest raised about 45° . Used for patients with certain respiratory or cardiac diseases to permit freer chest expansion.

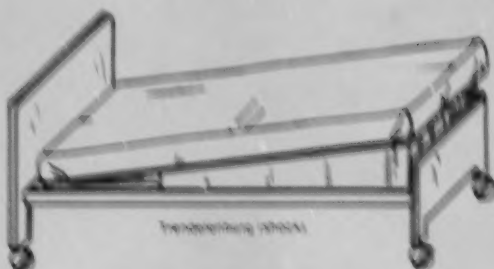


Semi-Fowler's. Backrest raised 45° and knees raised 15° . Used for general comfort of patient; prevents sliding down in bed when head is elevated.

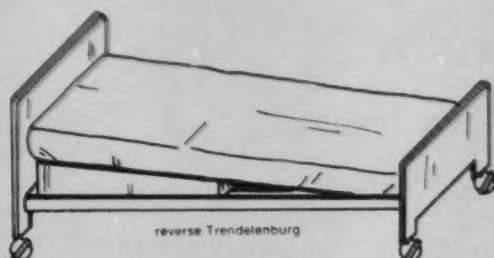
Note: Raising knee rest may impair circulation in lower extremities. Check with charge nurse before elevating knee rest.



Trendelenburg. Head section of bed lowered; foot section elevated. (Sometimes the foot of the bed is placed on "shock-blocks," raised by a mechanical jack or lifter, or placed on a chair if the foot section cannot be elevated by mechanical means.) This position may be used for patients in shock from severe blood loss or other causes.



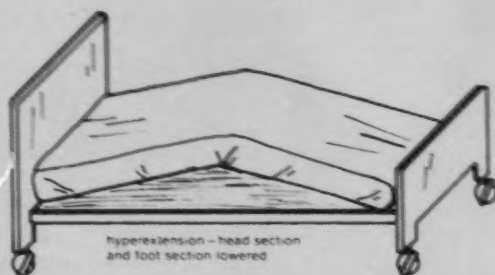
Reverse Trendelenburg. Head section of bed elevated; foot section lowered. (Head of bed can be raised on "shock-blocks," by a mechanical jack or lifter, or placed on a chair if head section cannot be mechanically placed in this position.) Used for patients with certain circulatory diseases.



Contour. Head section elevated, knee and foot sections elevated. Used for certain injuries or diseases of the lower extremities.



Hyperextension. Head section and foot section lowered. May be used for spinal fractures. Caution: The angle of the "break" should be no more than 15° . This is a dangerous position for a patient lying on his back. It can cause pressure on large veins in the body, e.g., vena cava, and result in decreased circulation, blood clots, etc. Patients have died following slight movement after lying in this position for six hours or more. You should not put patient into this position without supervision. If you are caring for patients in this position, keep this warning constantly in mind.



ITEM 3: PRACTICE IN OPERATION AND ADJUSTMENT OF HOSPITAL BEDS

In your classroom or skill laboratory, you should practice operating the hospital bed, whether manually operated, electrically operated, or both types.

1. Check the siderails of the bed. Locate the button or lever to release the siderail so that you can raise and lower the siderail several times. Notice how the siderail is attached to the bed.
2. On the manually operated bed, locate the hand-crank at the foot of the bed. Pull the crank out and engage it so that you can raise or lower that portion of the bed. Notice how you disengage the hand-crank and replace it so that it is out of the way when you work around the bed. Notice the gatches under the head and foot of the mattress which can be engaged in ratchets to keep those parts of the bed elevated.

Practice raising and lowering parts of the bed into the possible positions: Fowler's, semi-Fowler's, Trendelenburg, reverse Trendelenburg, contour, and hyperextension.

3. On the electrically operated bed, locate the controls. Check the levers or buttons that raise or lower portions of the bed, or the entire bed.

Practice raising and lowering the bed into the various positions: Fowler's, semi-Fowler's, Trendelenburg, reverse Trendelenburg, contour, and hyperextension.

ITEM 4: PROCEDURE FOR MAKING AN UNOCCUPIED BED

In your classroom or skill laboratory, you should practice the following procedure for making an unoccupied bed. There should be a bed frame with mattress available for your practice use, and linen to make the bed. There are some principles in making a bed that you should follow to make the work easier.

1. Always stand facing the direction in which you are working and avoid twisting your body.
2. Make one-half of a bed entirely, before going to the other side, and complete the head part of the bed before going to the foot, or vice versa. An efficiency expert has said that a bed can be made taking less than 50 steps or foot movements from start to finish.
3. Most hospital linen is folded in half, then folded again. The main center fold may be from top to bottom, or from side to side. In either case half of the sheet can be placed on the bed and the other half unfolded to cover the remaining portion of the bed. By using the center fold as a guide, you can position the sheet (or other items of linen) on half of the bed and need not go around the bed to check whether you have half of the sheet to cover that side.
4. Wash your hands before you begin bedmaking.

A. Preparatory Steps to Bedmaking

Important Steps

Key Points

- (1) Wash your hands.
- (2) Assemble the linen supplies needed.
 - 1 mattress pad
 - 2 large sheets
 - 1 plastic or rubber drawsheet
 - 1 cloth drawsheet
 - 1 blanket
 - 1 spread
 - 2 pillows
 - 2 pillow cases
- (3) Place the bed in a high position.
- (4) Move the mattress to the head of the bed.

In addition, you would have a bath towel, washcloth, and patient gown in the linen pack for the patient's use. In most general hospitals, the patient is supplied with these clean items each day, or as needed throughout the day when the items become soiled.

Having the bed in a high position puts your work at a comfortable level and helps to reduce or prevent back strain.

Mattresses slip down when the head of the bed is raised. Stand at one side of the bed facing the head and grasp the mattress about the center and at the bottom edge. Move it toward the head of the bed, using good body alignment and movements.

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B. Make the Foundation of the Bed on One Side

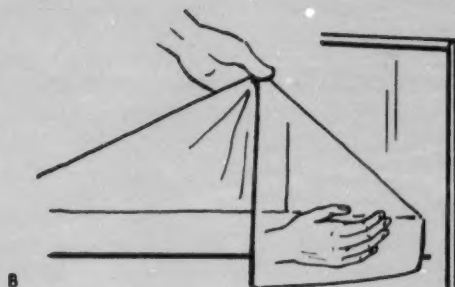
- (1) Place the mattress pad on the mattress.
- (2) Place large bottom sheet over mattress and pad.

(Omit this step if mattress pads are not used in your agency.) Smooth the pad free of wrinkles and secure it to the mattress with elastic, ties, or zipper, if any of these are used. Some pads simply lie over the mattress and are not secured.

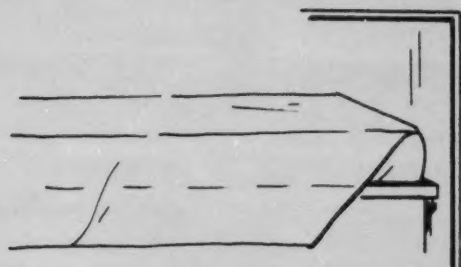
Place the center fold at the center of the bed, working from the foot of the bed to the head. Then unfold the top layer onto the distal half of the bed. The lower hem of the sheet should be even with the edge of the mattress at the foot. Seam should be facing toward mattress. Tuck the excess length of sheet under the mattress at the head of the bed.

Important Steps

- (3) At the head of the bed, miter the corner where the sheet has been tucked under the mattress.



B

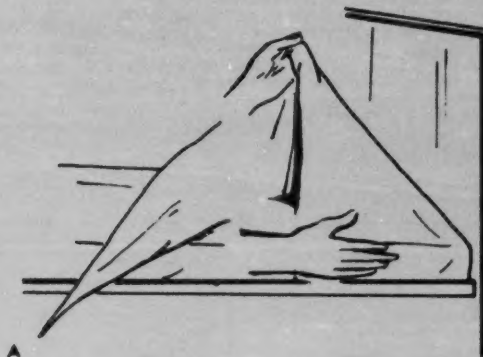


C

- (4) Tuck the sheet under the side of the mattress to the foot of the bed.
- (5) Place a plastic or rubber drawsheet over the middle section of the bed.

Key Points

Pick up the side edge of the sheet so that it forms a triangle to the head of the bed and the side edge is perpendicular to the bed.



A

Use the palm of your hand to hold the sheet against the side of the mattress and tuck the excess sheet under the mattress.

Drop the sheet over your hand, withdraw and tuck the rest of the sheet under the mattress.

(This step is optional; drawsheets may not be used in your agency.) Place the center fold of the drawsheet at the center of the bed and unfold the top layer toward the distal side of bed. The drawsheet should be 12 to 15 inches from the top of the bed. Tuck the proximal edge neatly under the mattress.

Important Steps

- (6) Place the cloth drawsheet over the rubber drawsheet.

Key Points

(Some agencies use a cloth-covered plastic drawsheet, so a separate cloth drawsheet is not needed.) This step may also be eliminated if your agency does not use drawsheets.

Place the center fold of the drawsheet at the center of the bed and unfold the top layer toward the distal side of the bed. Tuck the proximal edge neatly under the mattress.

C. Make the Top Bedding Portion of the Bed on One Side

- (1) Place the top sheet on the bed.

Start at the head of the bed with the edge of the sheet even with the mattress, seam side up. Place the center fold of the top sheet along the center of the bed, and unfold the upper layer over on the distal half of the bed.

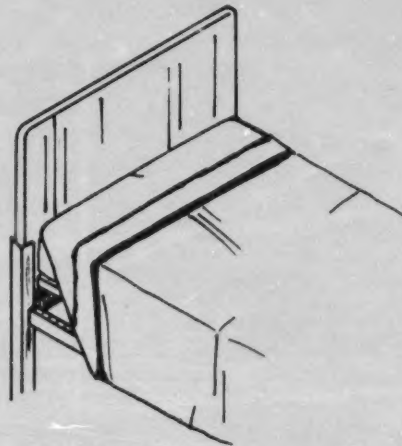
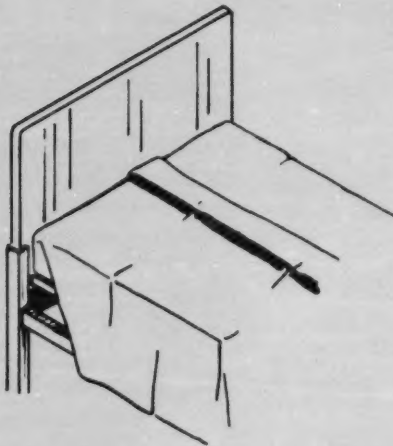
- (2) Make a toe pleat in either of two ways:

At the center of the foot of the mattress, make a 6-inch lengthwise pleat in the sheet. Tuck the end of the sheet under the mattress;

or,

about 6 to 8 inches from foot of bed, fold a 2-inch pleat across the sheet. Tuck the end of the sheet under the mattress.

The toe pleat provides room for the feet to move in bed and prevents pressure and strain on the toes or ankles. *Note:* The toe pleat is optional — follow your agency procedure. In some agencies, the top linens over the toes are simply elevated slightly to provide additional toe space, should you draw the top linens too tightly when securing them under the bottom edge of the mattress.



- (3) Place the blanket on the bed.

Start at the head of the bed, about 4 inches from the top of the mattress, and place the center fold of the blanket along the center of the bed. Unfold the remaining half toward the distal side of the bed. Tuck the remaining portion of the blanket under the foot of the mattress. Make a toe pleat, if used. In warm weather or if room is warm, a blanket may be optional.

Important Steps

- (4) Put the bedspread on the bed.
- (5) Miter the corner of the top linens at the foot of the bed.

Key Points

Start at the head of the bed, about 4 inches from the top of the mattress, and place the center fold of the spread along the center of the bed. Unfold the remaining half of the spread toward the distal side of the bed. Make a toe pleat, if used. Tuck the remaining portion of the spread under the edge of the mattress.

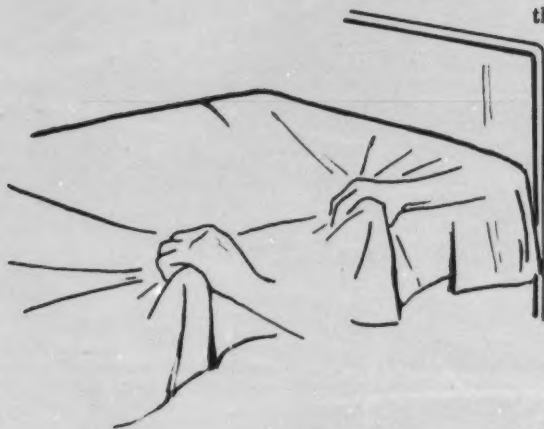
Pick up the edges of the sheet, the blanket, and the spread, and smooth around the corner so that the side edge is perpendicular to the bed. Use the palm of your hand to hold the sheet, blanket, and spread against the mattress. Tuck the hanging portion under the mattress.

Bring down the upper portion which had been picked up, and smooth it into a neat line.

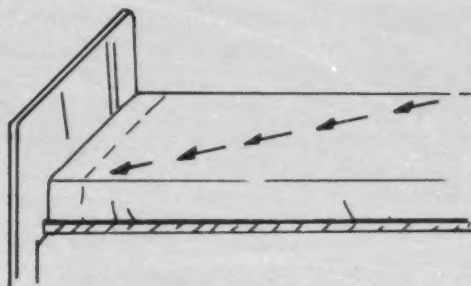
D. Move to the Other Side of the Bed and Complete Making the Bed

- 1) Fan fold top linen back toward the center of the bed while you complete the foundation.
- 2) With the bottom sheet, miter the corner at the head of the bed.

See steps listed in Item 2. Grasp the edges of the sheet tightly in both hands with the knuckles on top, pull tightly and smoothly down over the side of the mattress and tuck under the mattress. Repeat pulling and tucking all along the side, working toward the foot of the bed.

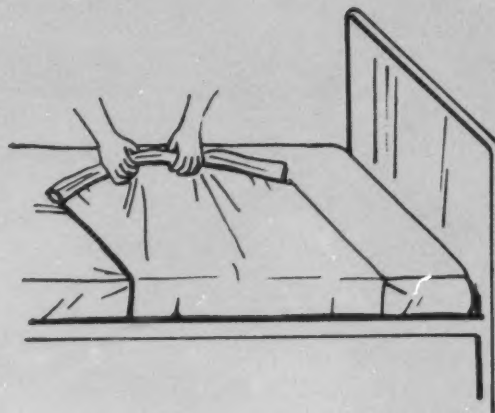


- 3) Grasp the bottom edge of the sheet and pull tightly in a diagonal direction to remove the last wrinkles and looseness.



Important Steps

- 4) Grasp the edge of the plastic or rubber drawsheet in both hands with the knuckles on top, pull down tightly over the side of the mattress and tuck in under the mattress.
- 5) Straighten and grasp the drawsheet in both hands with knuckles on top, pull down tightly over the side of the mattress and tuck in.
- 6) Move to the foot of the bed, and take the edge of the top sheet and tuck it under the bottom edge of the mattress.
- 7) Straighten the blanket and tuck the remaining portion under the bottom edge of the mattress.
- 8) Straighten the spread and tuck the remaining portion under the bottom edge of the mattress.
- 9) At the foot of the bed, miter the corner of the top linens, using the top sheet, blanket, and the spread as one unit.
- 10) Move to the head of the bed, and fold back the top sheet over the top edge of the blanket and spread.

Key Points

This makes a cuff over the spread and blanket and protects them from becoming soiled when drawn up under the patient's chin. It also prevents irritation to the patient's chin, by having the rough blanket covered with the smooth sheet.

E. Preparation of the pillows

- (1) Open the pillow case.



With one hand, grasp the center of the closed end of the case. With the other hand, gather the open pillow case (as you would a stocking before putting it on) up over the hand at the closed end.

Grasp the pillow with the covered hand while holding it away from your body. With the other hand on an open edge, pull the open edges down over the pillow. Do this until the pillow is completely covered. Adjust the pillow inside the case, keeping the pillow from contaminating your uniform.

Important Steps

- (2) Place dressed pillows on the bed.

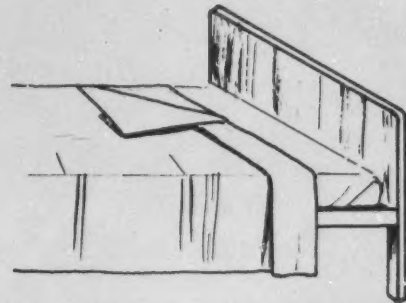
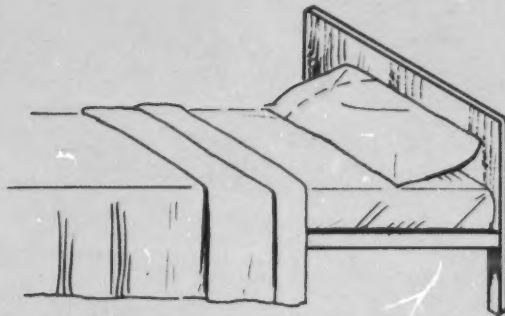
Key Points

Place pillows at center of head of bed; one on top of the other. Position pillows so that the open end of the case is away from the door of the room. This gives the bed a neater appearance.

F. Methods of Preparing an Unoccupied Bed for the Patient to Get Into Easily

- (1) Fan-fold the top covers toward the foot of the bed.

Bring the top edge of the covers to the foot of the bed. Then fold them back toward the center of the bed. The top covers will then be near the middle of the bed.



- (2) Pie-fold the covers.

Place one finger at the center of top covers facing the head of the bed. Lift the edge of the top covers and fold back toward the center of the bed, making a triangle.

ITEM 5: PREPARE THE BED AND UNIT FOR THE PATIENT

- A. Lower the bed to its lowest position. This is most convenient for newly admitted, ambulatory, and semi-ambulatory patients to get into bed.
- B. Attach the signal cord to the bed in a place where the patient can reach it easily. Many cords have a special clip which clamps onto the pillow case or foundation sheet.
- C. Apply the brakes at the foot of the bed. The brake should be in the locked position to prevent the bed from moving when the patient attempts to get into bed.
- D. Put the linens for the patient in the proper place: towels and washcloth in bathroom or in the bedside stand; hospital gown on bed or in bedside stand. (Use your agency procedure.)
- E. Tidy the unit. Place furnishings in a neat arrangement in the room and remove linen and other items not needed for the patient's use.

ITEM 6: THE CLOSED BED

The designation "closed bed," indicates that no patient occupies the bed. The bed is made so that the top covers and spread cover the bed completely to protect the linen beneath from soil or dust.

The procedure for making the closed bed is identical to that followed in making the unoccupied bed except for the spread. In the closed bed, the bedspread is put on as follows:

1. Place the center fold of the spread on the bed, seam side toward mattress. Begin at the head of the bed and place the top edge of the spread even with the edge of the mattress.
2. Unfold the spread over the other half of the bed.
3. Tuck the spread under the bottom edge of the mattress.
4. Miter the corner on each side of the foot of the bed, making a smooth, neat corner.
5. Place the dressed pillows in the correct position with the open end of the case away from the door, and carry out the procedure for the unoccupied bed to prepare the unit for the arrival of a new patient.

ITEM 7: THE ANESTHETIC OR SURGICAL BED

The anesthetic bed is also called the postoperative bed (post-op), the recovery bed, or the surgical bed. The object is to make the bed with all top bedding folded out of the way so the patient can be transferred from a stretcher to the bed with a minimum of time and movement, and then covered with the top bedding. This type of bed can be made for use when the patient undergoes medical treatments or has severe physical limitations of movement due to his condition or his disease. It is not restricted to patients who undergo surgery.

Basically, the bed is made in the same manner as the "unoccupied bed." There are some minor changes which you should practice in the classroom or skill laboratory.

Important Steps**Key Points**

1. Prepare the foundation of the bed as described in Item 4.
2. Place a cotton bath blanket over half of the foundation bed and tuck under the mattress on the side where you are working. (This is optional.)
3. Make the top of the bed according to Item 4, except that the top sheet, blanket, and spread are *not tucked* under the mattress at the foot of the bed, nor are the corners mitered.

In some colder climates, the cotton bath blanket provides additional warmth for the patient. (Follow your agency procedure.)

Instead of tucking the top linens under the mattress, fold the covers back toward the head of the bed to make a 6- to 8-inch cuff that is even with the edge of the mattress at the foot of the bed.

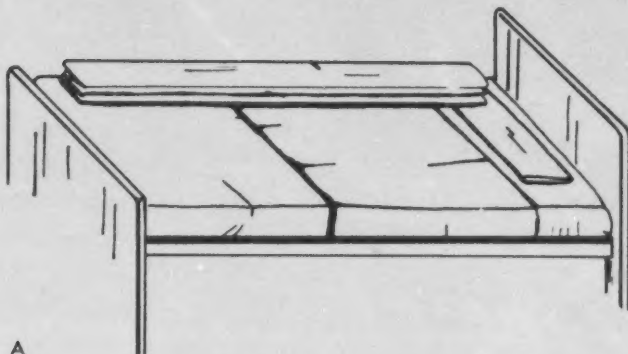
Important Steps

Key Points

4. Fold the top covers to the side or to the foot of the bed.

A. Fan-fold lengthwise to the side of the bed.

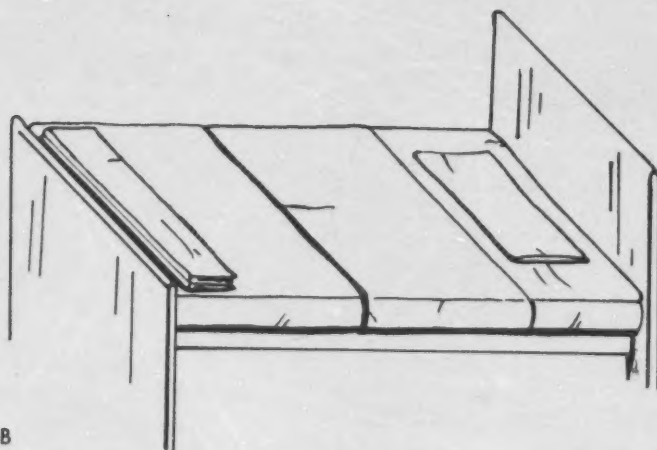
Fold the overhang of the covers up onto the bed, even with the side of the bed. Lift the covers with both hands and make a 6- to 8-inch fold; repeat once more so that all covers are folded lengthwise on the far side of the bed.



A

B. Fan-fold widthwise to the bottom of the bed.

Fold accordion-type pleats 6- to 8-inches wide from the head of the bed to the foot, or fold half of the top cover toward the foot of the bed, and accordion pleat once or twice so that all covers are at the foot of the bed.



B

5. Place a towel or disposable pad at the head of the foundation bed.

This is intended to protect the sheet if the patient should vomit (have an emesis).

6. Placement of the pillows.

The pillow is placed either on a chair near the bed or in an upright position at the head of the bed.

Important Steps

Key Points

7. Prepare the unit for the arrival of the patient.

A. Check to see that siderails are attached to the bed, are in working order, and are in the lowered position.

B. Attach the signal cord to the bed.

C. Leave the bed in a high position.

D. Lock the brakes of the bed.

E. Move furniture away from the bed.

F. Tidy the unit, and remove linen and other items not needed for the post-operative care of the patient.

The high level of the bed is approximately the same level as a stretcher, to make it easier to transfer the patient from one to another.

This prevents the bed from moving when the patient is being transferred into it.

Clear space to allow room for the easy passage of the stretcher and for workers to transfer the patient from the stretcher to the bed.

Other items that are needed for the care of a patient returning from surgery will be covered in the unit on postoperative care.

ITEM 8: PROCEDURE FOR MAKING AN OCCUPIED BED

In the day-by-day care of patients, it is often necessary to change some of the linen on the patient's bed while he is still lying in his bed. Not all patients are able to get out of bed while the bed is being made up with fresh linen. In most hospitals, some of the linen on the bed is changed daily or as needed throughout the day and night, and some linen is used again unless it has been soiled or is wet.

You should practice the procedure of making a bed with a patient in it by having one of your classmates play the part of a patient while you make the bed in the classroom or skill laboratory. Remember to use good body alignment and movements as you work. As you instruct the patient where to move, you should be concerned with his alignment as well. Use smooth, coordinated movements in your work to avoid jarring the patient or causing him discomfort. Explain what you are doing as you go along so the patient will be better able to cooperate and to understand what is expected of him.

Important Steps

Key Points

1. Wash your hands, identify the patient, explain what you plan to do, and enlist his cooperation.

While doing so, you can check the condition of the linens on his bed and estimate what you will need to change it.

2. Provide for the patient's privacy.

Close the door of the room, pull the bedside curtains, or use screens to provide privacy.

3. Obtain the articles of linen you will need:

- 1 large sheet
- 1 drawsheet
- 1 spread
- patient gown
- towel and washcloth
- a linen hamper for soiled linen

You should plan to change the bottom sheet and use the cleaner top sheet as the bottom sheet. However, some agencies may use entirely clean linen each day. Follow your agency procedure.

In most hospitals, you may not be able to take a linen hamper to the unit, but may have to share it with other workers who are also

Important Steps

4. Remove used linen from the bed.
 - A. Lower the siderail on side of bed where you will begin work.
 - B. Unfold and place the bath blanket over patient and the top covers.
 - C. Loosen top covers at the foot of the bed.
 - D. Remove the spread.
 - E. Remove the blanket, and fold it for reuse.
 - F. Remove the top sheet and fold it for reuse as described above.
5. Move the mattress to the top of the bed.
 - A. If the patient is able, ask him to grasp the head of the bed with his hands and pull when you give the word.
 - B. Grasp the side edge of the mattress with both hands and move it toward the top of the bed as in Item 4, Making an Unoccupied Bed.

Key Points

making beds. In other hospitals, all soiled linen is carried to a central area and put in hampers kept there.

Place clean linen on the seat of a chair or dresser near your work area.

Work on one side of the bed and complete your work there before going to the other side.

The bath blanket may be in the patient's bedside stand or issued with his daily linen pack. The bath blanket provides additional warmth during the procedure. Have patient hold to top edge of the bath blanket or tuck it under his shoulders to secure it. Reach under the bath blanket, grasp the top bedding (sheet, blanket and spread), and fan-fold to the bottom of the bed.

The patient is now covered by the bath blanket, and the top covers are at the foot of the bed. This provides privacy and prevents exposure of the patient.

Move around to the foot of the bed and remove the covers that were tucked under the mattress.

You are to use a fresh spread in this practice procedure, so the soiled spread should be discarded in the laundry hamper. If the spread were to be used again on the bed, you would fold it in eighths and hang it over the back of the chair.

Fold the blanket and keep it from touching the floor during the procedure. Fold it in half — top edge to bottom edge or side edge to side edge. Grasp the center of the folded spread and fold it in half again. Fold in half once more. Place it over the back of a chair for reuse.

Place it over the back of a chair.

Tell the patient when you are ready to move, so he can help pull himself toward the head of the bed. Be sure to use good body alignment and movements. If the patient is unable to help, you may need to obtain help to move the mattress with the patient on it.

Important Steps

- C. When moving a mattress with a helper, one person should stand at each side of the bed, each grasp the mattress with both hands, and on your cue, slide it toward the head of the bed.

6. Move the patient to the distal side of the bed.

7. Make the foundation of the bed on one side.

A. Loosen the foundation linens (sheet, drawsheet, and plastic drawsheet) from the top and side of the bed.

B. Fold or roll the drawsheet toward the patient, then the plastic drawsheet, then the bottom sheet; tuck the soiled linen rolls as close to the patient's back as possible.

C. Straighten the mattress pad to remove wrinkles.

D. Take the used large sheet from the back of the chair and put it on the bed as a bottom sheet.

E. Unfold or unroll the plastic drawsheet, bringing it over both rolled bottom sheets; smooth it free of wrinkles, and tuck it firmly under the mattress.

F. Place a clean cloth drawsheet on the bed.

G. Place the clean sheet, blanket, and clean spread on the bed according to Item 4, Making an Unoccupied Bed.

8. Move the patient to the clean side of the bed.

A. Reach under the top covers and hold them up as you assist the patient to roll himself over the folded linen and onto the clean side of the bed.

Key Points

Turn the patient away from you and on his side according to the instructions in the unit on positioning the bed patient. The patient may hold onto the siderail on the far side of the bed for support. If he is unable to hold on, he may need a pillow at his back for support.



Proceed to tuck in and miter the corner as in Item 4, Making an Unoccupied Bed. (Tuck under the mattress and miter the corner.) Fan-fold the other half of the sheet toward the patient and tuck it under the soiled bottom sheet that is to be removed.

Open it halfway and lay the center fold at the middle of the bed, fan-fold the far half, and tuck it under the patient's back. Tuck the side nearest you under the mattress.

Make the toe pleat if used, and miter the corner.

Important Steps

- B. Position the clean top covers over the patient and remove his bath blanket.
- C. Raise the nearest siderail and ask patient to hold on to it for support.
- D. Dress the pillow and place it under the patient's head (see Item 4, Making an Unoccupied bed).
9. Move to the other side of the bed and complete making the other side.
 - A. Lower the siderail so that you can reach your work without straining.
 - B. Loosen the foundation linen on this side of the bed and remove the soiled drawsheet and large bottom sheet.
 - C. Straighten the mattress cover and remove wrinkles.
 - D. Pull and straighten the bottom sheet, tuck under the head of the bed, miter the corner, and pull tightly along the side of the bed to remove wrinkles as you tuck it under the mattress.
 - E. Bring the plastic drawsheet toward you over the bottom sheet, pull tightly to remove wrinkles, and tuck it under the mattress.
 - F. Bring the cloth drawsheet over the plastic drawsheet, pull tightly to remove wrinkles, and tuck it under the mattress.
 - G. Straighten the top sheet, blanket, and spread on the proximal side of the bed.
10. Attach the patient's signal cord within his reach.
11. Provide for the patient's safety.
 - A. Adjust the siderails according to the agency regulations.
 - B. Place the bed in the low position.

Key Points

Hold onto the top covers with one hand and remove the bath blanket with the other. Avoid exposing the patient. Fold the bath blanket for reuse and put it away in the bedside stand or closet, or discard it if a new one is supplied with the daily linen pack.

Place the soiled linen in the laundry hamper or bag.

When the foundation of the bed is completed, the patient can return to the center of his bed in a dorsal recumbent position (flat on his back). *Note:* Steps E and F are optional. Follow your agency procedure.

Tuck top linens under the mattress at the foot of the bed. Miter the corner and complete the cuff at the top of the bed (see Item 4, Making an Unoccupied Bed).

Never leave your patient without some means of summoning help when he needs it.

Most patients are not accustomed to a high bed. They are less likely to fall if the bed is in a low position.

Important Steps

Key Points

12. Provide for the patient's comfort.

- A. Place the patient in a Fowler's or semi-Fowler's position, if this is allowed for his condition.
- B. Position the pillows under his head for good alignment and comfort.
- C. Place bedside stand and table nearby or within the patient's reach.

Put items the patient may need or wish to use within his reach.

13. Tidy the room.

- A. Remove soiled linen and linen hamper, if used.
- B. Put clean towels, wastebasket, and patient's gown in proper place, e.g., bathroom, bedside stand; neatly arrange the top of the bedside stand.
- C. Remove from the room other equipment which is no longer being used, and return it to its proper place.
- D. Tell the patient when you expect to return.

Use the procedure of your agency for handling of soiled linen. Some hospitals object to having linen placed in a pillow case, but require the use of a laundry bag. Others may use laundry chutes, or other methods.

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ITEM 9: CONCLUSION OF THE LESSON

You have completed the unit on making the hospital bed. After you have practiced operating the hospital bed, placing it in the various positions, making the unoccupied bed, the anesthetic bed, and the occupied bed, you should arrange with your instructor to take the PERFORMANCE TEST. You will be expected to demonstrate your skill in performing these activities.

VI. ADDITIONAL INFORMATION FOR ENRICHMENT

The bed is the most important part of a patient's environment because he occupies it during much of his hospital stay. There are many different types of beds and variations of bed-making. One kind is achieved by adding boards under the mattress; this makes a firm bed. It is used for orthopedic patients, those with bone problems, or for injuries to the spinal cord. The firmness provides support and thus contributes to a better recovery. Various types of traction may be attached to ordinary hospital beds to apply a steady pull on some part of the patient's body. Traction pulls a bone so that it is properly aligned during healing. Traction can also be used to release strain on a part of the body. Adding traction equipment to the ordinary hospital bed does not interfere with making the bed.

It should be noted that bed linen and blankets may be a source of staphylococcal infection. This type of infection is recognized as an enormous problem throughout the world. Therefore, you must keep soiled linen from touching your uniform. (Be sure to refer to the unit on handwashing.) Boils, abscesses, carbuncles, impetigo, pus formation, or superficial infections may be signs of staphylococcal infection. When the staphylococcal infection reaches the blood stream, it causes septicemia (blood poisoning). It may localize in the kidneys, liver, joints, lungs, or other body parts or it may be found in some inflammatory conditions of the urinary tract, middle ear infections, meningitis, pneumonia, and osteomyelitis. *Prevention of infections is the best practice.*

Remember, wash your hands and keep soiled linen away from your uniform.

PERFORMANCE TEST

In the classroom or skill laboratory, your instructor will ask you to demonstrate the following activities and procedures. You are to perform these without reference to the instruction book, notes, or other source materials.

1. Given a hospital bed set in a low horizontal position, you are to adjust the bed to a number of different positions. Your instructor will tell you what the position is. When you have completed the adjustment, step back from the bed, and the instructor will tell you the next position, as follows:
 - A. Adjust the bed to Fowler's position.
 - B. Adjust the bed to semi-Fowler's position.
 - C. Adjust the bed to the position you would use when moving the bed.
 - D. Adjust the bed to the contour position.
 - E. Adjust the bed to the position in which you would leave a completed *unoccupied* bed.
 - F. Adjust the bed to the hyperextension position.
 - G. Adjust the bed to the position in which you would leave a completed *anesthetic* bed.
 - H. Adjust the bed to the Trendelenburg position.
 - I. Adjust the bed to the reverse Trendelenburg position.
2. Given a hospital bed adjusted in a low position with the brakes off and the siderails down, you are to make an unoccupied bed in six minutes or less. You are to obtain the following supplies before beginning to make the bed:

Mattress cover or pad	blanket
large sheets	bed-spread
plastic or rubber drawsheet	bath blanket
cloth drawsheet	patient gown
pillow	towels and washcloth
pillow case	laundry bag or hamper

Notify your instructor when you are ready to begin.

3. Given a hospital bed without any linen on it, with siderails down, brakes off, and signal cord unattached, you are to obtain the linens listed above, and make an *anesthetic* bed. Inform your instructor when you have collected your supplies and are ready to begin.
4. Given a hospital bed occupied by a patient (simulated or played by another student), with the bed adjusted in a low position, siderails up, brakes off, and signal cord unattached, you are to make the bed and change all linen except for the spread, blanket, and top sheet, which you will use again. Collect the linen you will need to change the bed: a large sheet, a cloth drawsheet, and pillow case. Inform your instructor when you are ready to begin.

PERFORMANCE CHECKLIST

MAKING HOSPITAL BEDS

ADJUSTMENT OF BEDS

The student will show the proper procedures for adjusting the hospital bed.
Adjust bed correctly in the following positions without errors in selection and movement of controls:

- | | |
|----------------------------|------------------------------------|
| 1. Fowler's position. | 5. Unoccupied bed position. |
| 2. Semi-Fowler's position. | 6. Hyperextension position. |
| 3. Bed-making position. | 7. Reverse Trendelenburg position. |
| 4. Contour position. | 8. Trendelenburg position. |

MAKING AN UNOCCUPIED BED

The student will show the proper procedure for making an unoccupied bed.

1. Select and assemble all materials required before beginning to make bed.
2. Adjust bed to highest position without errors in selection and use of controls.
3. Place mattress pad on bed, smooth it free of wrinkles, and position it properly.
4. Place sheets, drawsheets, and blankets, and spread these items in correct sequence; position each item correctly.
5. Tuck each piece of bedding under the mattress neatly and make sure that each is smooth and taut.
6. Form all required mitered corners smoothly and neatly.
7. Form toe-pleat correctly at foot of top linens.
8. Fold back top sheet and adjust spread correctly in relation to top sheet. Fold covers correctly to open bed; or pie-fold covers correctly to open bed.
9. Handle and dress pillow correctly, keeping it from contact with body and clothing.
10. Position pillow correctly with open end away from door.
11. Attach signal cord within reach of patient.
12. Lower bed to lowest position and set brakes.
13. Adjust siderails to "up" position.
14. Observe good body alignment principles at all times.
15. Be cognizant of and minimize contact between materials and reduce or eliminate sources of contamination as much as possible.
16. Proceed smoothly from one step to another without hesitation, false starts, or wasted motions.
17. Complete a neat and correctly made bed within 6 minutes.

MAKING AN ANESTHETIC BED

The student will demonstrate the correct procedure for making an anesthetic bed.

1. Select and assemble all materials needed before beginning to make bed.
2. Wash hands.
3. Raise bed to working height.
4. Place mattress pad on bed, smoothing it free of wrinkles, and securing or placing it in proper position.
5. Place sheets, drawsheets, blankets, and other materials in correct sequence, positioning each piece correctly.
6. Tuck each piece under mattress correctly, making sure that each is smooth and taut.
7. Form all required mitered corners smoothly and neatly.
8. Fan-fold the top bedding to the side of the bed or to the foot of the bed, or pie-fold the top bedding to one side of the bed.
9. Place pillows correctly, either on chair or at head of bed in horizontal position.
10. Handle and place pillow slip on pillow while keeping pillow from contacting uniform.
11. Attach signal cord within reaching distance of patient.
12. Place bed in correct position with siderails down, and set brake.
13. Move furniture to make room for stretcher.
14. Observe principles of body alignment and proper movement at all times.
15. Reduce or eliminate contact and contamination as far as possible.
16. Proceed smoothly from one step to another in the procedure, working on one side before going to another.

MAKING AN OCCUPIED BED

1. Assemble and select all materials before beginning to make the bed.
2. Identify patient.
3. Wash hands.
4. Stack materials on chair in order of use.
5. Raise bed to highest position.
6. Place bath blanket correctly to cover patient.
7. Pull top covers to foot of bed without exposing patient.
8. Remove top covers and fold them correctly.
9. Move mattress toward top of bed and straighten mattress cover.
10. Remove bottom sheet and drawsheets on each side of bed, and fold and secure new linen, performing all operations in correct sequence.
11. Move patient to correct position for each step of procedure.
12. Give appropriate explanations, directions and assistance to patient each time patient is moved. Observe techniques of good body alignment when moving patient.
13. Remove bath blanket from under top sheet without exposing patient.
14. Place sheets, drawsheets, blanket, and spread in correct sequence; positioning each piece correctly.
15. Tuck each piece under mattress neatly and make sure each is smooth, free of wrinkles, and taut.
16. Form all required mitered corners smoothly and neatly.
17. Form a toe-pleat correctly at foot of top linens.
18. Fold back top sheet and adjust spread correctly in relation to top sheet.
19. Remove soiled pillow case and dress pillow with new case, handling pillow correctly.
20. Position pillow correctly with open end away from door.
21. Place soiled linen in laundry bag.
22. Attach signal cord within reach of patient.
23. Lower bed to lowest position and set brake.
24. Adjust siderails to "up" position.
25. Adjust bed to comfortable position as requested by patient.
26. Arrange furniture in proper position.
27. Examine patient in bed to see that patient is comfortable and everything is in order.
28. Proceed smoothly from one step to another in procedure, without hesitations, false starts, or wasted motion.
29. Complete a neat and correctly made bed within 6 minutes.

Unit 10

ASSISTING THE PATIENT TO DRESS AND UNDRESS

I. DIRECTIONS TO THE STUDENT

Please read these paragraphs carefully. They will tell you exactly what you will be expected to know and what you will be expected to do at the end of the lesson. You will proceed through this lesson unit using this workbook, practice the procedure with a student partner or other person in the skill laboratory, and prepare to perform the post-test demonstrations for your instructor.

You will need the following items for this lesson: this workbook; a pen or pencil; a hospital gown, robe, and slippers; the performance test for this lesson.

If you believe that you have the necessary skills and would waste your time studying this material, discuss this with your instructor. You would then take the performance test. All students are expected to demonstrate the required skills accurately in the performance test.

II. GENERAL PERFORMANCE OBJECTIVE

You will be able to provide partial or total assistance when needed by the patient in putting on or removing articles of clothing. The assistance may be needed by a patient of any age, ranging from the newborn to the elderly. You will provide assistance regardless of the physical or mental condition of the patient, and without causing him additional discomfort or distress.

III. SPECIFIC PERFORMANCE OBJECTIVES

You will be able to:

1. Explain the biological and physical principles concerned with body movement and function that may be used in assisting the patient to dress and undress without further injury, discomfort, or distress.
2. Assess the factors in the patient's physical condition and ability to cooperate that may interfere with his competence to dress or undress and your own ability or limitations in carrying out the procedures. *Note:* When needed, secure additional help.
3. Explain the way in which assistance will be given, and the various steps of the procedure, enlisting the cooperation and assistance of the patient when possible.
4. Provide privacy for the patient in the removal or putting on of clothing (other than outer garments such as coats, sweaters, boots, shawls, etc.) by using cubicle curtains, screens, closed doors, and nonpublic rooms.
5. Prevent undue exposure of the patient's body during the dressing or undressing procedure by using drapes or clothing.
6. Verbally communicate patience, gentleness, and concern for the patient. Express these nonverbally through your behavior and actions.

7. Demonstrate your regard for articles of clothing as the property of others (belonging to patient or to hospital) by carefully and neatly storing items not in use, and by not cutting, tearing, or causing other damage to clothing.
8. Provide total assistance in removing the soiled gown or pajamas of an adult bed patient, and put clean gown or pajamas on in five minutes or less.
9. Provide partial assistance in removing the gown or pajamas of a patient, and assist him to dress in undergarments, street clothing, and shoes in ten minutes or less.

IV. VOCABULARY

You will need to learn or review the meaning of the following words which are used in the lesson and italicized each time they are used.

- axilla* -- the armpit (plural, *axillae*).
- brace* -- an appliance made of fabric, leather, plastic, or metal which may be used on arms, legs, neck, or back to provide support or immobilization.
- brain impairment* -- decreased function of the brain, damage to all or a part of the brain from any cause. Examples are mental retardation, tumor, injury, stroke.
- buttocks* -- the rounded prominence formed by the gluteal muscles; the seat, or rump.
- cast* -- a solid mold (often made of plaster of paris) applied to immobilize a part, used on a bone fracture, dislocation, or severe injury.
- contracture* -- the permanent contraction of a muscle due to spasm or paralysis that leads to "freezing" or immobilization of the affected joint(s).
- distal* -- farther away, the most distant.
- extension* -- the movement that widens the angle between two adjoining parts, or brings two parts into or toward a straight line.
- extremity* -- a terminal limb of the body, a hand or foot.
- flexion* -- the movement that narrows the angle between two adjoining parts, or the act of bending.
- intravenous* or *IV* -- within or into the vein, such as injection of fluids, or puncture to obtain blood specimens.
- maturation* -- the gradual process of growth and development that includes the integration of the body structures. An example is the infant who must grow sufficiently to integrate the bony and muscular structures with the sensory organs of vision and balance before he can learn to walk.
- mental retardation* -- the slower than normal rate of development and maturation of the intellectual functions of the brain (based on the normal age and growth scales).
- monitoring device* -- a mechanical appliance that detects or measures one or more of the body functions, such as the vital signs of the heart action, respiratory rate, blood pressure, or temperature.
- paralysis* -- the loss of sensation or of voluntary muscle movement in a part of the body.
- post-operative* -- the condition of the patient after or following a surgical operation; commonly called "post-op."
- pre-operative* -- the condition of the patient immediately before surgery.
- proximal* -- the near side, closest.
- self-esteem* -- the respect and worth with which a person regards himself.
- stroke* -- a sudden, severe attack; usually refers to an accident in the circulatory system in the brain; also may be called apoplexy or cerebral hemorrhage.
- supine position* -- lying on the back with face upward; the palm of the hand or foot when facing upward.

ITEM 1: VOCABULARY REVIEW

You may already know the meaning of a number of words given in the vocabulary. Some of the words may seem more difficult for you to learn and to remember. You can make it easier to remember by writing down the word and a few key words that will give the meaning of the word.

ITEM 2: WHY PATIENTS NEED HELP WITH DRESSING AND UNDESSING

Does it seem a little unusual to have a lesson on helping the patient to dress and undress? Didn't everyone learn how to put on and take off clothing as a young child? You have been doing this for so many years that it may seem like a simple procedure. However, as a young child learning to dress yourself, you had to have much practice to learn how to get your arms into sleeves, how to fasten buttons, and how to tie the laces of your shoes. You had to learn all of the body movements that are involved in the process of dressing or undressing. You no longer consciously think of the movements that you perform in the process of dressing *except* when there is interference or restriction of your freedom of movement. Then dressing or undressing becomes complicated for you. And so it is with the patient.

The patient who is an infant or young child will need your help to dress or undress because he has not reached the *maturation* level necessary to know all the movements and coordination required in dressing. The older child or adult patient may need your assistance when his movements are restricted as a result of his illness or the type of treatment he is receiving.

Your knowledge of how to assist the patient to dress or undress and your skill in performance will affect the patient. The way in which you assist the patient may increase or decrease his feelings of comfort, pain, trust, fear, confidence, acceptance, or rejection. By the time you complete this lesson, you should be able to recognize ways of helping the patient with his feelings, as well as assist him to change clothing.

- A. The patient may need some assistance in dressing or undressing when conditions limit his ability to _____.
- B. Describe some of the reactions an adult patient might have if you put his shoe on the wrong foot:
- _____
- _____
- C. Do you think the patient in the statement above would show (more) (less) (no difference in) cooperation when you have to perform an important procedure for him that requires his participation? Why do you think so?
- _____
- _____

ITEM 3: GUIDELINES FOR BODY MOVEMENT

In performing the procedure of assisting the patient to dress or undress, you will need to use the principles of body alignment, balance, and movement. Five guidelines were listed that serve as the basis for body movements used in many nursing skills.

D. Can you list the five guidelines for body movements?

- (1) _____ (4) _____
(2) _____ (5) _____
(3) _____

If you were unable to list all five of the guidelines, you may wish to review these in "Body Alignment, Balance, and Movement for Health Workers," Part II. These guidelines will enable you to work safely and effectively, and to avoid injury to yourself. The principles of body alignment and balance that you have studied would apply to the movement and positioning of the patient as well.

ITEM 4: LIMITATION OF BODY MOVEMENT

Various conditions tend to limit movement. The patient's ability to perform movements required in dressing or undressing may be limited by one or more of the following conditions:

1. Lack of *maturation* — as in the case of infants and small children.
 2. *Brain impairment* — as in mental retardation, injury or coma.
 3. Weakness.
 4. Pain — from any cause, such as disease or post-operative.
 5. Fractures.
 6. *Contractures*.
 7. *Paralysis*.
 8. Special appliances or equipment used, such as *IV's*, *casts*, *braces*, or *monitoring devices*.
 9. Absence of a portion of a limb.
 10. Lack of vision.
- E. Suppose that you had slipped on a sidewalk, fallen, and broken a bone in your right arm. The arm is in a cast *extending* from your fingers to 2 to 3 inches above the elbow, and is held in a *flexed* position. Describe how this would limit your movements in dressing using the articles of clothing you are now wearing.
- _____
- _____

ITEM 5: CLASSIFICATION OF ARTICLES OF CLOTHING

Articles of clothing may be classified according to the following groups: the cardigan type with a complete opening from neck to lower edge in front or in back; the pull-over type with an incomplete opening in the front, side, or back of the garment; the pants type which is pulled up over the lower *extremities* and hips; diapers; shoes and stockings. Belts, ties, and suspenders may be considered as accessory groups of articles. Most of the clothing that you will be handling while assisting a patient would fall in these various groups.

F. Could you list some articles of clothing which would fall into these groups?

Cardigan type

Pull-over type

Pants type

How would you classify a skirt? _____

Why? _____

ITEM 6: PROCEDURE FOR CARDIGAN-TYPE (BACK-OPENING)

You have covered information related to movement, some of the limitations of movement, and a way of classifying articles of clothing. You should now be ready to practice the steps involved in assisting another person to undress and dress. The steps of the procedure will be stated in terms of total assistance to the person or patient. You will need a hospital gown or robe, and someone to act as the patient. Your practice will be more realistic if your "patient" is able to lie in a bed in your skill laboratory or practice area.



UNIT
10

Important Steps

1. Approach and identify the patient.

2. Obtain articles of clothing that will be used.

Key Points

Explain what is to be done and the assistance that you will give, and enlist the patient's cooperation. The patient has a right to know what is to be done to him. A patient's failure to cooperate may be based on fears of pain or discomfort, of his inability to move, or of possible harmful consequences. He may dislike being told what to do or being forced to do something he may not feel is necessary. Accept the patient's right to his feelings, but give reassurance and explain the benefits, comfort, suitability, or progress that is indicated by the procedure.

Hospital gowns, pajamas, or robes may be obtained from the unit's linen supply before approaching the patient, but the patient's personal clothing may be kept in his room.

- (a) Use principles of good body movement when stooping or reaching.
- (b) Avoid blind reaching to secure articles on high shelves; use a stable step-stool or a step-ladder.

Important Steps

3. Provide for privacy.

4. Position the patient.



Key Points

Pull the cubicle curtain around the bed, place screens, or close the door of the room. This protects the modesty of the patient and others in the area, and avoids embarrassment to them. Wash your hands.

The preferred position is the *supine* position (lying on back) so that the arms and legs of the patient are readily accessible and the patient can be turned easily to one side or the other. Move the patient to the *proximal* (near) side of the bed and protect the patient who may have a fear of falling by using your body as a barrier (block). If the bed is an adjustable high-low type, it should be in the high position with the siderail lowered on the side of the bed where you are working.

(a) Dressing or undressing the patient in pull-over type garments may be easier when the head of the bed can be elevated 30° or more.

(b) Pajama pants and other types of pants are more easily put on or removed if the head of the bed is flat. The patient can be turned more readily and will require less assistance to raise his *buttocks*.

G. The *positioning of the patient and the adjustment of the bed* are related to three of the guidelines of movement. Can you list all three?

(1)

(2)

(3)

5. Avoid undue exposure of the patient's body.

Fold the top covers of the bed back to the patient's waist. Exposure of more of the body may cause chilling, or may offend the patient's sense of modesty.

6. Remove used or soiled hospital gown (cardigan type with a back-opening).

Place one of your hands under the patient's head to support his head and neck in good body alignment; with the other hand, reach under his neck, pull neck fastening to one side, and untie or unfasten. Free the sides of the gown from under the patient, and slip his arms out of the sleeves. Fold top portion of gown down to cover his chest.

You will find that many patients have restricted movement in one or both arms, such as IV running in a vein, paralysis of an arm following a *stroke*, or a *cast* immobilizing a fractured bone. The rule to remember is to remove the garment first from the least affected *extremely* where there is more freedom of movement and less danger of harm to the patient.

Important Steps



7. Put clean hospital gown on patient.

8. Remove used or soiled gown.

9. To undress or dress the patient in other articles of clothing, see Item 7 Procedures for All Other Classifications of Clothing on page 171.

Key Points

Some hospitals provide a special IV gown for use with patients who have an IV running. It has a back opening, and one sleeve open from neckline to lower edge. It is closed with ties or fasteners. (See diagram at left.)

To remove the gown from the patient receiving an IV, slip the gown off the unaffected arm; then carefully slide the sleeve down the affected arm over the needle and tubing. Support the arm during this step and avoid dislodging the IV needle. Then slide the gown along the tubing, carefully remove the bottle of fluids from the IV holder, keeping it above the level of the arm so that the blood does not run up in the tubing; and slip the gown over the bottle. Replace the bottle on the IV holder.

Note: If the IV is dislodged, call your team leader immediately.

Slip the patient's arms into the sleeves, one at a time, and pull gown up over the shoulders. (If the patient has an IV running, slip the appropriate sleeve over the IV bottle, slide it down the tubing, support the patient's affected arm, and pull the sleeve up on his arm. Then put gown on unaffected arm.) In other words, put the sleeve on the affected arm first. Reach under the patient's neck, grasp the other edge of the gown and tie, draw the tie through and fasten or tie at the side of the neck. Smooth the gown over the shoulders, and down over the body.

Reach under the clean gown and remove the soiled gown from the patient's chest. Place in linen hamper.

Important Steps

Key Points

10. Provide for the patient's comfort.



11. Care of the used or soiled clothing.

Position the patient in a supine position (on his back) or on his side using principles of good body alignment. With one hand under the patient's head to raise and support the head, use other hand to remove the pillow(s). Fluff the pillow(s) with several shaking motions. Remember to keep the pillows away from your uniform. While supporting the head with one hand, use the other hand to position the pillow(s) under the patient's head and neck. If patient is lying on his side, support and comfort for the back may be provided by placing a pillow lengthwise along the back, firmly rolled under, and tucked along his side. Smooth the top coverings of the bed to the patient's axilla or armpit, or up to his shoulders.

Regard all clothing as the property of others, whether patient's or the hospital's. Avoid cutting off, tearing, or otherwise damaging the clothing. Even if it is shoddy and worn, the replacement of clothing causes additional expense to the owner.

Hospital clothing should be folded neatly or hung up for the patient's future use. Soiled articles should be placed in the linen hamper for laundering. The patient's personal clothing should be neatly folded, hung up, or set aside to be cleaned by the family. It can be put in the laundry, if the hospital provides this service for the patients' clothing.

12. Recording and reporting.

Report any changes in the patient's condition to the team leader or the nurse in charge. Conditions to be reported include change in color, difficulty in breathing, fever, chills, nausea, vomiting, reddened or broken skin areas, drainage, pain, etc. Record as may be appropriate.

Charting example:

8:30 A.M. Complete bed bath given. Gown changed; was able to put on gown with limited assistance. Is proud of progress toward doing for himself.

J. Jones, SN

You have now completed your practice of removing and putting a hospital-type gown on a helpless patient. In the procedure, information was given on dressing and undressing a patient with an affected arm, one with limitation of movement. This information would apply to the lower extremity as well.

H. In dressing a helpless patient, the garment would be put on the affected extremity (first) (last). Circle one.

- I. In undressing a helpless patient, the garment would be removed from the affected extremity (first) (last). Circle one.

You should practice the dressing and undressing procedure, using one or more articles of clothing from each of the classification groups.

ITEM 7: PROCEDURES FOR ALL OTHER CLASSIFICATIONS OF CLOTHING

This section will explain how you would provide total assistance to a patient in dressing or undressing, using articles of clothing from the different groups. In the performance test for this lesson, you will demonstrate assisting a patient who is wearing street clothing, so you will need to practice with some articles from each group.

Important Steps

Key Points

1. Cardigan-type with front opening.

Dressing

Open all buttons or fasteners. Put your hand through the proper sleeve of the garment, clasp the patient's *distal* (farthest away) wrist and pull it through the sleeve. Then roll the patient toward you, support him in this position while placing the garment over his back, and tucking it close to his side. Return the patient to a supine position, reach under his *proximal* (near) side, and pull the rest of the garment toward you. The remaining sleeve should be below the level of the patient's axilla. Reach your hand through the sleeve, clasp the patient's proximal wrist, and pull it through the sleeve. Smooth the garment into place over the shoulders and body. Button or fasten the front opening.

Undressing

Open all buttons or fasteners. Loosen garment and ease it off the distal shoulder of the patient. Grasp the lower edge of the sleeve and pull it down over his arm and hand. Roll the patient toward you and support him in this position while slipping the garment off his back and tucking down close to this side. Return the patient to the *supine position*, reach under his *proximal* side, and pull the garment out from under him. Support the patient's *proximal* arm and remove the sleeve from it.

2. Pull-over, or small-neck opening garments.

Dressing

Put your hand through the proper sleeve of the garment, clasp the patient's *distal* wrist and pull it through the sleeve. Repeat this step for the patient's proximal arm. Pull the garment up toward the shoulders. Gather the back of the garment from hem to neck in your hand, and with the other hand, stretch or shape the neck opening. Have the patient raise his arms, or

Important Steps

Key Points

Undressing

assist him by pulling the garment up, and slide the neck opening smoothly over his head. Reassure the patient during the short time his head is covered. Smooth the garment down over shoulders and body. Roll the patient on his side toward you, support him in this position, and smooth down the back of the garment. Return him to a *supine position* and button or fasten the neck opening if there is one.

Unbutton or open the neck opening if there is one. Ease the garment down over the patient's *distal* shoulder. Grasp the sleeve at the lower edge, support the patient's arm, and remove the sleeve from it. Repeat this step to remove the sleeve from the *proximal* arm. Roll the patient on his side toward you, support him in this position, and gather the back of the garment up to the neck. Return the patient to a *supine position*, gather the front of the garment from hem to neckline, and slip it smoothly over the head, reassuring the patient during the time his head is covered. Support the patient's head and neck with one hand, reach under his neck with the other hand, grasp the garment, and pull it toward you. Remove the garment.

3. Pants and related garments with legs.

Dressing

Free the top coverings from the foot of the bed and fold back to the patient's knees. Position the patient on the *proximal* side of the bed so his feet and legs can be reached without stretching. Gather most of the pant leg of the garment in one hand, clasp the patient's distal ankle with the other hand, and guide the foot through the pant leg. Repeat this step with the *proximal* foot. Ease the pants up over the knees and thighs. If the patient is able to raise his *buttocks*, have him do so while you reach under the top coverings, grasp the pants on each side, and pull them up to his waist. If patient is unable to raise his *buttocks*, roll the patient on his side toward you and pull the pants up over the *buttocks* to the waist. Return the patient to a *supine position*, reach under his proximal side, and pull pants up to waist. Fasten the pants closing.

Undressing

Unfasten pants closing. Place a sheet or drape over the patient's lower abdomen and thighs. If patient is able to lift his *buttocks*, have him do so, and, with your hand at each side of the pants, slip them down over the *buttocks* to the

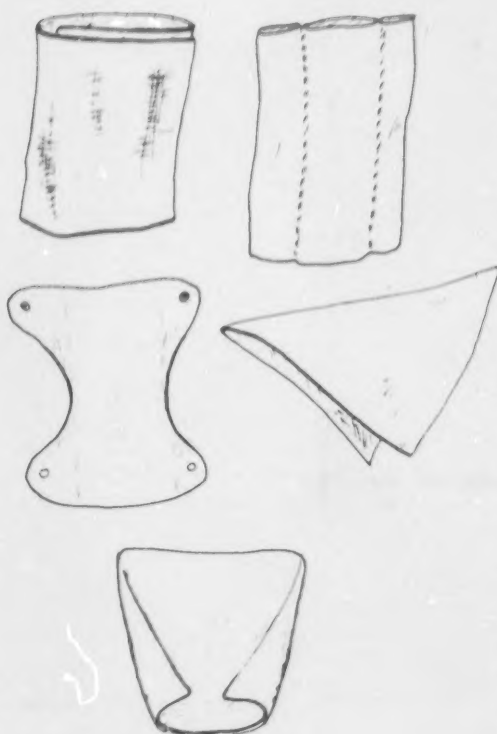
Important Steps

Key Points

thighs. If the patient is unable to lift his *buttocks*, roll him on his side toward you, support him in this position, and ease the pants down over the *buttocks*. Return the patient to a *supine* position, reach under the *proximal* side, and pull the pants down over the buttocks on that side. Continue to pull each pant leg down over the thighs and legs toward the ankles. Supporting the ankle with one hand, pull the pant leg off the foot, and repeat this step for the other foot. Remove the pants.

4. Diapers — reusable, or disposable.

Putting on



Diapers may be folded in many ways. To adjust the fit to the size of the baby, the sides may be folded under, or inward, to decrease the width of the diaper at the front. With one hand, firmly grasp both ankles of the baby and lift his buttocks up. With the other hand, position the diaper under the baby with the back edge at his waist level. Lower the *buttocks*, release the ankles, and draw the front portion of diaper between baby's legs, and up to waist level. Fasten or pin securely at each side so that the diaper fits firmly at the waist and thigh. If using safety pins, place your hand under the diaper area being pinned so that baby will not be pricked or jabbed by the pin. When extra-absorbent layer is available through the folding of the diaper, place in the front of the diaper for baby boys, and in the back portion of diaper for baby girls.

Many unthinking health workers make it a practice to put diapers on adult and elderly patients who have lost complete bowel or bladder control. This is deplorable and *should not be done*. Treating an older patient as an infant lowers the patient's *self-esteem*; the contact with the urine or feces in the diaper irritates or burns the skin; and the diaper denotes the lack of rehabilitative outlook on the part of the health worker. You will learn more about the rehabilitative aspects of this problem in a later lesson. In the meantime, let us resolve that diapers are used for infants and young children who have not achieved control of bowel and bladder.

Removing diapers

Unfasten the diaper at each side and draw the front of the diaper downward. With one hand, firmly grasp baby's ankles and raise the buttocks. With the other hand, use the dry and clean portion of the diaper to gently wipe away

Important Steps**Key Points****5. Shoes, slip-on or laced styles.***Putting on*

the urine and feces from the skin. Use a moistened bit of cotton or tissue to clean the skin, and pat dry. Fold the diaper inward, and remove.

Loosen the laces and pull tongue of shoe forward in the laced-style shoe. For all shoes, support the patient's ankle, grasp the bulk portion of the shoe, and slide toes, foot, and heel into the shoe. A shoe horn is helpful to ease the heel into the shoe. Make sure that toes are not curled under the foot inside the shoe, especially in small children and aged persons. Repeat these steps to put the shoe on the other foot. When possible, have the patient stand in order to better position the foot in the shoe. Tie the laces of the laced-style shoe.

Removing shoes

Untie and loosen the laces of the laced-style shoe. For all shoes, support the ankle of the patient, grasp the heel of the shoe, ease it off the heel of the foot and the rest of the foot. Repeat this step to remove the other shoe.

6. Stockings.*Putting on*

Roll or gather the stocking from the opening to a point beyond the heel. Support the patient's ankle with one hand, and with the other slip the rolled stocking over the toes, ease and position over the heel, and pull up smoothly over the leg. Fasten to a garter, if it is a long stocking. Do not secure stocking with round elastic or other method that will cause pressure around the leg or constrict the circulation. Repeat these steps to put stocking on other leg.

Removing stockings

Unfasten the stocking from garter, if one was used. Roll or ease the stocking down the leg to the ankle. Support the ankle, ease the stocking down over the heel, over the foot, and off the toes. Repeat these steps to remove the other stocking.

ITEM 9: CONCLUSION OF LESSON

You have completed the lesson on dressing and undressing the patient. After you have practiced the procedure to gain initial skills in assisting the patient to dress and undress, make an appointment with your instructor to take the performance test and demonstrate these skills. The performance test instructions are attached.

V. ADDITIONAL INFORMATION FOR ENRICHMENT

Additional information for enrichment may be suggested by your instructor for those of you who have a special interest or a desire to learn more about some of the problems related to dressing and undressing. You are not required to learn this information for the performance test of this lesson, but you may wish to read some articles.

WORKBOOK ANSWER SHEET

Item 2 p. 165

A. Move

B. Discomfort, possible pain; some distrust and fear that worker didn't know what he was doing, or didn't care; lack of confidence in worker's ability.

C. Less; fear, lack of trust, lack of confidence in worker performing important procedure when he erred in doing simple procedure.

Item 3 p. 166

D. (1) maintain alignment and balance

(2) work at a comfortable height

(3) keep your work close to the body

(4) use smooth, coordinated movements

(5) "set" or prepare muscles for action

Item 4 p. 166

E. Student description of limited motion with an arm in a cast.

Item 5 p. 167

F. Cardigan-type: coat, jacket, shirt, blouse, dress, pajama coat, sweater, bra.

Pull-over type: shirts, dress, slip, blouse, sweater, undershirt, pajama top.

Pants: slacks, shorts, pajama pants, panty girdle.

Skirt: a pull-over type with small opening. Pulled over hips, but has no legs.

Item 6 p. 168

G. (1) maintain alignment and balance

(2) keep work at comfortable height

(3) keep work close to the body

p. 170

H. First

I. Last

PERFORMANCE TEST

In a performance testing situation in the skill laboratory, you are to demonstrate the application of your knowledge of body movement and the procedure of dressing or undressing the patient by performing the following activities without reference to any source material.

1. In five minutes or less, give total assistance to a helpless patient in removing a hospital gown and replacing it with a clean gown. Identify the conditions that limit the patient's movement. Standards to be used in this activity include:
 - (a) Use of principles of body alignment, balance and motion for yourself and your patient.
 - (b) Carrying out of procedure without injury, discomfort, or distress to the patient.
2. Give assistance as needed to the patient to put on a robe and shoes or slippers, preparatory to his getting out of bed. Standards to be used in this activity include (a) and (b) above.
3. In ten minutes or less, assist a newly admitted patient to remove street clothing, and dress him in a hospital gown or pajamas. Identify the conditions that limit the patient's movement. Standards to be used in this activity include (a) and (b) above.

PERFORMANCE CHECKLIST**ASSIST PATIENT TO DRESS AND UNDRESS****GENERAL PERFORMANCE CHECKLIST**

The student will:

1. Carry out procedures with good body alignment, balance, and action. Adjust bed to working height. Maintain good alignment for self and patient. Move patient to proximal side of bed for easier working position.
2. Identify patient condition which limited motion.
3. Be capable of carrying out required dressing procedure without injury or imposing discomfort or stress on patient.
4. Maintain patient's privacy and warmth throughout the procedure.

REMOVING THE CARDIGAN TYPE HOSPITAL GARMENT*

The student will show the proper method of removing cardigan type garments.

1. Wash hands.
2. Approach and identify patient.
3. Explain procedure to be performed.
4. Obtain article of clothing that is needed.
5. Provide privacy for patient.
6. Position patient at comfortable working height: supine position; bed raised to highest position; head of bed elevated, if not contraindicated.
7. Pull top covers of bed back, being careful to insure patient's modesty.
8. Place one hand under patient's head and neck for support.
9. With other hand reach under neck, unfastening garment.
10. Free sides of garment from under patient.
11. Slip arms out of sleeves.
12. If patient's movement is restricted, remove unaffected appendage from garment first.
13. Remove garment from affected extremity, e.g., arm with intravenous tubing attached:
 - A. Carefully slide the gown sleeve down affected arm over needle and tubing.
 - B. Support the arm throughout this procedure.
 - C. Slide gown along tubing, carefully removing bottle of fluid from holder.
 - D. Support IV bottle above level of arm.
 - E. Slip gown over bottle.
 - F. Replace bottle up to holder.

*This checklist may be used to record students' performance for dressing the patient in a clean hospital gown by reversing the order of the above check points.

*DRESSING IN TROUSERS OR OTHER GARMENTS WITH LEGS**

Demonstrate the correct method of dressing the patient in garments with legs.

1. Pull top coverings back from foot of bed and over patient's knees.
2. Position patient proximally on side of bed so that his feet and legs can be reached without stretching.
3. Lower bed to a flat working position.
4. Gather most of the trouser-leg of garment in one hand.
5. Grasp patient's distal ankle with other hand.
6. Guide foot through trouser-leg.
7. Repeat steps 4 through 6 with other leg.
8. Ease trousers up over the knees and thighs.
9. Have patient raise his buttocks and slide trousers up on each side, pulling them to waist.
10. If patient is unable to raise buttocks, roll patient on his side toward self and pull trousers up to the waist on that side.
11. Roll patient to his proximal side and pull the trousers up to his waist on other side.
12. Fasten trousers at waist.
13. Fasten trousers, closing.

*This checklist may be used for removing the pants — just reverse order of check points.

Unit 11

BATHS

I. DIRECTIONS TO THE STUDENT

Proceed through the various kinds of baths and become familiar with the differences and with the effects desired of each bath. Practice giving a bed-bath. Correct your mistakes, then be prepared to demonstrate the correct method of giving a bed-bath.

II. GENERAL PERFORMANCE OBJECTIVE

You will be prepared to meet the patient's comfort needs through bathing. These comfort needs include his physical, emotional, and mental well-being.

III. SPECIFIC PERFORMANCE OBJECTIVES

You will be able to prepare and give at least one of the following baths for the performance test.

1. A partial bath.
2. A cleansing bath.
3. A medicated bath.
4. A therapeutic bath.
5. A sitz bath.

You will also gain knowledge of the scientific principles of bathing.

IV. VOCABULARY

ambulation — process of walking, moving about.

anatomy — the study of the form or structure of the body.

chemistry — the science dealing with the composition of substances, elements, and compounds.

microbiology — the study of microorganisms.

necrotic tissue — dead tissue.

perineal region — the area between the thighs at the lower end of the trunk of the body, including the rectum and the genitals.

perineum — the area between the anus and vulva in the female and between the anus and scrotum in the male.

pharmacology — the science dealing with drugs and their nature, action, and properties.

physics — the science dealing with matter and energy.

physiology — study of the organic processes of the body.

psychology — the science dealing with the mind and behavior.

sociology — the study of the development and organization of human groups.

sordes — a collection of brown, crusty material on the mouth and teeth of persons having fevers.

stomatitis — inflammation of the mouth.

suppuration — the formation of pus.

vaginal — relating to the genital canal in the female, extending from the uterus (womb) to the vulva (the external genito-urinary opening).

Specific Types of Baths

1. Cleansing bath A bath performed to:
 - (1) cleanse the skin
 - (2) increase elimination through the skin
 - (3) stimulate circulation of blood
 - (4) refresh the patient

The entire body is washed; water temperature: 105°F.
Note: Include the backrub.
2. Medicated bath May be administered as a tub bath or sponge bath, intended to serve as soothing sedation or provide relief of a skin disorder. Skin is patted dry following the bath; it is never rubbed because this produces friction which increases itching.
 - a. Soothing bath Keep conversation at a minimum; water temperature: 100-105°F.
 - (1) *Oatmeal*. The new instant oatmeal can be added directly to the bath water. Stir in the amount needed to make desired consistency. Proceed as with a regular tub bath. To use regular oatmeal in a bath, add 3 cups of regular oatmeal to 2 quarts of water and cook until it is similar to paste. Place the cooked oatmeal in a cheesecloth bag and tie securely. Twirl the bag in the bathtub of water until a desired consistency of mucilaginous material appears in the water. Fill tub one-third to one-half full, continuing to use the 3:2 ratio.
 - (2) *Sodium bicarbonate* — a 5 per cent solution is prepared by adding 1 teaspoon of soda to 500 cc. of water (1 pint). Pour this into the tub bath. Fill tub one-half full by continuing to pour in a mixture of this 1:500 ratio.
 - (3) *Starch* — mix 1 pound of cornstarch with cold water. Add boiling water to make a thin solution. Boil this solution one or two minutes and add to half-filled tub. Proceed with the regular tub bath.
 - b. Stimulating bath
 - (1) *Saline* — a solution of sodium chloride (NaCl), such as artificial sea water, is prepared. This is salt water — 1 teaspoon of salt to 500 cc. of water. Fill tub half full by continuing to add a mixture of this 1:500 ratio. Proceed to give the tub bath. This has a stimulating effect on the skin. Water temperature: 95-108°F.
 - (2) *Mustard* — preparation for
 Adult: 1 tablespoon dry mustard per gallon of water.
 Child: ½ teaspoon of dry mustard per gallon of water.
 Dissolve mustard in tepid water and add to the tub of bath water. This has a stimulating

- effect on the skin and relieves muscle spasms and convulsions. Water temperature: 98-100° F.
3. Partial bath For the convalescent or person not in need of a full bath. This includes the face, hands, axillae, back, and perineal area. Water temperature: 105° F.
Note: Include the backrub.
 4. Self-administered bath Performed by the patient, except for the back and possibly the feet. The health worker washes the back, gives the backrub, and may do the feet. Water temperature: 105° F.
 (also called "self-help")
 5. Therapeutic bath Performed for a desired physical reaction.
 - a. Relaxing bath The patient assumes a horizontal position in a bathtub. Water is provided to cover the entire body. Only the head is above water. The patient remains 15 to 20 minutes. Water temperature: 105° F.
 - b. Hot water bath Given to remove muscle soreness and strain. Water temperature: 110° F.
 - c. Sponge bath Given to reduce temperature, nervousness, and tension. Range for water temperature may be from room temperature to warm.
 - (1) A sponge bath is given to aid the skin in elimination or to reduce nervousness and tension by washing the entire body. Water temperature: 105° F.
 - (2) A sponge bath given to reduce temperature requires an order from the physician. The patient's temperature is taken before the procedure and again 30 minutes after it is completed. Body temperature is decreased by the transfer of heat which takes place when evaporation occurs. When air comes into contact with water, some water is absorbed into the air in the form of vapor; as a result, the body feels cool. Plain water may be used or alcohol may be added to it. Alcohol evaporates much faster than water and hastens the cooling process. This procedure will be discussed in detail later.
 - d. Whirlpool A mechanism is attached to the bathtub or a specially prepared tub is used. The motor of the mechanism causes a whirling movement of the water which gives the skin a gentle massage and has a generally soothing effect. Tension and discomfort are relieved.
 - e. Soaks Certain soaks may be ordered as a part of the bath. The soak has therapeutic value because it loosens diseased or necrotic tissue. The soak promotes suppuration (pus formation) of a wound. The solution, temperature, and frequency of the soak will be prescribed by the physician. Burned patients may be placed in normal saline (salt water) for a stated time of soaking in order to ease removal of "dead" tissue. Preparation for a soak includes thorough cleaning of the tub before and after the soak.

- f. Sitz bath Brings moist heat to the perineum or anal area for the promotion of healing a wound and to relieve discomfort. Commonly used following rectal or vaginal surgery and following birth of a baby (delivery).

V. INTRODUCTION

Care of the person includes certain health measures whether or not there is acute medical or surgical illness, chronic disease, or mental deterioration. The extent to which these health measures can be carried out depends on the patient's anatomical and physical condition as well as his psychological state. The age of the patient is an important factor related to these health needs; e.g., the older patient may not need a complete bath every day. A daily bath may result in excessively dry skin with scaling and itching, caused by loss of natural oils and decreased perspiration.

The following factors, grouped under subject classification, support the reasons for certain health measures related to the bath:

Anatomy and Physiology. These require adjustment through the bath.

1. Waste products from glands need to be removed from the skin.
2. Dust and bacteria accumulate on the skin and must be removed.
3. Oils secreted from the glands have a protective function in preventing dryness, but excessive amounts provide a base for bacteria and must be removed through washing.
4. Bathing produces a soothing, relaxing effect in prepared situations due to function of numerous nerve endings in the skin.
5. The mouth is lined with mucous membrane (skin covering) and must be kept clean through mouth care, which is considered a part of the bath.

Chemistry. This is directly relevant in selecting materials used in the bath.

1. Hard water is not suitable for the bath because it does not combine with soap to produce a lather.
2. Soap that is strongly alkaline may remove protective oils from the skin and have an irritating effect.
3. Perspiration of the skin is slightly acid; it is clear in appearance but contains some of the body's sodium (salt). It contains urea, a body substance that is excreted as waste.
4. Rubbing alcohol toughens the skin because it hardens the skin's protein. It is said to make the skin resistant to pressure sores.
5. Body powder provides some antiseptic effect and is soothing. It does have the disadvantage of "caking" and with much perspiration can have an abrasive effect.

Pharmacology

1. Alcohol acts as follows:
 - a. Toughens and strengthens the skin and helps prevent pressure sores.
 - b. Evaporates quickly and is cooling to the skin. It may be used in "sponge" baths to reduce temperature of the body.
2. Salt (sodium) solution may be used in these ways:
 - a. As an effective mouthwash, gargle, and a means of cleaning the teeth.
 - b. To make a stimulating bath solution or to produce a protective action and decrease irritation.

3. Cornstarch, which is smooth and without grit, serves as:
 - a. Dusting powder for the skin.
 - b. A soothing bath to irritated skin (by emulsifying oils and allaying irritation of skin and mucous membranes).
4. Sodium bicarbonate has two uses in the bath procedure:
 - a. It serves as a tooth powder. (Salt and soda mixed together serve as an excellent tooth-cleaning agent because they dissolve mucus).
 - b. In bath solution, it dissolves dead tissues and secretions; it also has a soothing effect in some skin diseases.
 - c. Soda may be added to the oatmeal preparation for a soothing bath. It has an adhesive and coating action and serves as a protective coating on the skin and mucous membrane.
5. Vinegar may be used in rinsing soap from the hair. It reduces the alkaline action of soap and dissolves adhesive substances at the hair shaft.

Microbiology

1. Bacteria, which are ever-present on the skin, enter the body through the skin only if there is a broken area of the skin. Skin should be washed as a protective measure.
2. A bath is necessary to remove dirt, oil, and cells of the skin which shed from the outer surface. Dirt, oil, and dead cells can harbor pathogenic organisms.
3. Soap used in bathing acts by lowering surface tension of the grease and dirt on the skin surface and permits easier removal. If soap is not rinsed from the skin, it may become irritating.
4. Hands transport bacteria to and from the patient and must be washed before and after each care given.
5. Mouth care helps in these ways:
 - a. Prevents dental caries (decay).
 - b. Prevents sordes, stomatitis, and feeling of uncleanness.
 - c. Protects the body from bacteria traveling to the digestive tract and other parts of the body.
 - d. Prevents lips from becoming unduly dry and cracked. Cracked lips provide an entry for bacteria to the body.
6. Bacteria (microorganisms) need moisture for growth and reproduction. Keeping the skin dry and preventing breaks in the skin provide a line of defense.

Physics. These facts provide additional appreciation of the bath process.

1. Water is a conductor of heat. The bath water should be warmer than the skin temperature to prevent the patient from feeling cold.
2. Water tends to evaporate. Water is used to sponge a patient who has an elevated temperature. Alcohol may be added to water; this decreases the time required for evaporation to take place.
3. The human body, when put into water, displaces an equal amount of volume. This should be taken into consideration in filling the bathtub or foot tub.
4. Heat produced by activated water in a whirlpool bath relaxes muscles and stimulates circulation.

5. Continuous pressure on bony prominences causes decreased circulation of blood to an area and may result in a pressure sore. Pressure from an object such as a cast may cause a pressure sore because the decreased circulation to the area fails to bring food and nourishment and carry away waste products. Sheepskin under a bony area may reduce pressure since wool is resilient.
6. Friction from rubbing produces heat at the skin surface and causes blood vessels to dilate, thus bringing more blood to the area.

Psychology: The impact of a bath on human behavior.

1. Provide privacy for the patient at all times. Certain persons are extremely modest and resent even minor exposure. The patient's attitude toward treatment and other hospital measures depends on the protection of his privacy at all times.
2. Listen to complaints the patient may offer during the bath. Observe his attitude toward his illness, hospital environment, and response to health workers. Govern your conversation by the patient's condition and desires. Allow the patient to relieve his mental strain through talking.
3. Expected benefits of therapeutic or medicated baths should be explained for the patient's benefit. It will enhance cooperation and benefits.
4. Special care of the mouth makes the patient feel better and prevents possible additional health problems.
5. Special care of the toenails, fingernails, and hair bolsters the morale of a patient and improves self image. This is especially true for women. The very ill male patient should be shaved regularly to keep up his morale.
6. Resentment by a patient toward close supervision of a tub bath or sitz bath may be overcome by explaining the need for safety measures. The health worker should speak in well-modulated tones free from anxiety.
7. Irritating procedures should be done first, soothing ones last.
8. Answer all questions in a professional way that shows interest in the patient without becoming "familiar."
9. Anticipate the needs of the patient and render service in a manner that instills confidence.

Sociology: Functions carried out during the bath affect the patient.

1. Wash your hands before and after treatment. Patients notice. Failure to do this may destroy the patient's confidence in you.
2. Work methodically and quietly. Plan your work; then work your plan.
3. If a patient must remain in bed at home after treatment at a health facility, refer to your team leader. She will arrange for a visiting nurse to call on him. Teach the family what is needed and the functions of caring for the patient.
4. Keep patients under constant observation when placed in a tub of water to prevent drowning or injury.
5. Treat the patient as a guest.
6. Introduce yourself to the patient and introduce him to the environment.
7. Explain hospital routine in order to allay his fears.
8. Shield the patient from annoyances.
9. Care for his personal belongings carefully.
10. Be prepared to provide reassurance, understanding, protection, and service as a general confidante to the patient and his family.

ITEM 2. BED BATH

Equipment

Basin of warm water: 110°–115° F.
 Desired soap
 Clean linen stacked in order of use
 Bath blanket
 Two towels and washcloths as needed (provide for extra towels to remain at bedside)
 Clean gown
 Laundry bag for soiled linen
 Patient's toilet articles from bedside stand
 Toilet tissue at bedside
 Toothbrush or applicator
 Mouthwash solution, if provided

Important Steps

1. Approach the patient.



2. Offer the bedpan or urinal.



Bedpan for helpless:

Toothpaste, tooth powder, or mixture of:

- a. Salt and soda, or
- b. $\frac{1}{2}$ milk of magnesia, $\frac{1}{2}$ hydrogen peroxide

Note: Salt and soda may be used instead of toothpaste or powder. Milk of magnesia and hydrogen peroxide may be used with the applicator.

Water glass and water

Emesis or curved basin

Face towel

Basin for denture care if needed

Key Points

- a. Wash your hands.
- b. Introduce yourself if you are new to the patient. Check his identification band.
- c. Explain the treatment to be done.
- d. Answer all questions in a low, well-modulated voice.
- e. Anticipate the patient's needs and render service.
- f. Pull curtains around the unit, provide privacy in manner available, or shut the door in a private room.

- a. Ask patient to flex knees.
- b. Slide your hand under the hips to help direct lifting.
- c. Ask patient to lift hips; slide pan in place.
- d. Adjust the position of the patient by raising the head of the bed (if allowed).
- e. Leave toilet tissue and call signal within reach of patient and step away.
- a. Position patient on side. Stand facing his back and place pan firmly against his pelvic region.
- b. Grasp the hip bone (iliac crest) and roll the patient on the pan. Position him for comfort.
- c. When he is finished, position the patient for turning, hold the pan securely with one hand, and roll him off the pan, using the hip bone for leverage.
- d. Wash anal area and dry.
- e. Empty and rinse bedpan or urinal.
- f. Wash your hands.

Important Steps**3. Arrange bath equipment.****4. Mouth care, conscious patient:****Key Points**

- a. Check temperature of room; allow no drafts. A room temperature of 75-78°F. is desirable. (Aged persons need warmer temperature.)
- b. Remove items from bedside table and place bath articles on table top.
- c. Place articles for oral hygiene on the table.
- d. Loosen bedding around the bed.

- a. Place equipment for mouth care within reach.
- b. Fill glass 2/3 full of water. Place nearby.
- c. If allowed, raise head of bed to Fowler's position.
- d. Moisten toothbrush with water or mouthwash and spread toothpaste or tooth powder on it.
- e. Hand toothbrush to patient.
- f. If the patient is unable to sit up, turn him to the side facing you. Place towel and curved basin under chin and hand toothbrush to him.
- g. Teeth should be brushed in this manner: downward on upper teeth; upward on lower teeth. This applies both to front and back teeth.
- h. Allow patient to rinse mouth into a curved basin. Rinsing may be done as many times as patient desires. (Use water or mouthwash.)
- i. Wipe mouth with a towel when completed.
- j. Rinse toothbrush and return to assigned place.
- k. Rinse curved basin and place it with items to be cleaned later.
- l. Wash your hands.

Mouth care, unconscious patient:

(Mouth care is a must for this person.)

- a. Turn patient's head to the side facing you and place towel and curved basin under his chin.
- b. Using applicator (commercial applicators are prepared with glycerin and lemon),

Important Steps



Care of dentures:

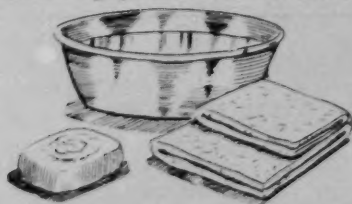


Key Points

thoroughly clean inside of mouth, cheek sides, roof of mouth, teeth, and tongue.*

- c. Discard applicators in trash and wash the patient's mouth with mouthwash and rinse with water. Very small amounts of liquid are used since the patient is not able to spit them out. However, you must keep the teeth and tissues of the mouth clean and moist. Keep the patient's head in such a position that fluid drains out of the mouth by gravity.
 - d. Dry the patient's mouth and lubricate the lips to prevent cracking. Sterile Vaseline may be used. Do not use mineral oil since it may drain down into the lungs and cause lipid pneumonia.
 - e. Clean the equipment and return to assigned place.
- (Comatose patient's dentures should be removed from mouth and placed in container.)
- a. Dentures must be handled with care; dropping may cause breakage. When not in the mouth, they should be kept in a labeled denture box with water or normal saline to keep them moist.
 - b. If patient cannot remove dentures, you must do it. To remove upper denture (it is held in place by a vacuum): grasp the front teeth with the thumb and index finger. Move up and down slightly to break the vacuum seal. Slip out of the mouth.
 - c. Lower dentures may be picked out of the mouth, exercising care to turn slightly to prevent the discomfort of stretching the lips.
 - d. Place dentures in a basin and take to sink to wash. *Use caution not to drop them.*
 - e. Use toothbrush and toothpaste or tooth powder to clean by brushing motions. Brush down on upper teeth and brush upward on lower teeth. (A commercially prepared material may be used for soaking the dentures.)
 - f. Rinse with running water, exercising care not to allow the wet dentures to slip from the fingers.
 - g. Return to bedside and allow patient to place dentures in the mouth, or do it for him.
 - h. Dry patient's mouth and hands.

*Note: A 4 by 4 inch gauze wrapped around the index finger may be effectively used instead of an applicator. Half-strength hydrogen peroxide and milk of magnesia is a good agent for cleaning the mouth.

Important Steps**5. Patient movement for bed bath.****6. Assemble equipment on bedside table.****7. Replace top linen with bath blanket.****Key Points****a. To turn patient on side:**

- (1) Place the knee of the patient in line of direction to be turned, in flexed position leaning slightly on the other knee. Place arm on side of the body at midwaist.
- (2) Grasp the shoulder with one hand and the hip bone (iliac crest) with the other hand and give a gentle push. The patient turns easily in either direction.

b. To move a patient from one side of bed to the other:

- (1) Place one arm under patient's neck and shoulders and the other arm under the waist. Slide the patient's shoulders toward you.
- (2) Place one hand and arm under the sacral area and the other hand under the thighs. Slide the patient toward you.
- (3) Move feet and check for body alignment.

Note: Use good body posture for yourself by bending the knees and allowing the leg muscles to do the work. Start with your body weight on front foot. Move patient by shifting weight to back foot.

c. To move the patient up toward head of bed:

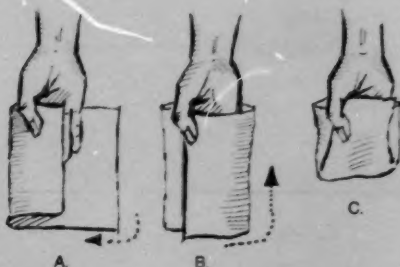
- (1) Ask patient to flex knees and grasp head of bed.
- (2) Place your hands under his back and thighs.
- (3) As patient pulls with his hands and pushes with his feet, assist him to move up in bed.

a. Prepare bath water 110°-115°F, (water cools rapidly).**b. Place soap dish near basin of water. Do not leave soap in bath water; the water becomes excessively soapy.****c. Raise the bed to working level.****a. Fan-fold bath blanket and place across the patient's chest.****b. Ask patient to hold top edge of bath blanket.****c. Grasp bottom edge of blanket and top of covers and pull covers and bottom edge of blanket to foot of bed. (The patient maintains privacy.)**

Important Steps

8. Prepare patient.

9. Make a bath-mitt.



10. Wash face and neck.

Key Points

- d. Inspect spread for soiled areas. If it appears clean, fold in this manner:
 - (1) Bring top edge to bottom edge. The spread is now in half.
 - (2) Fold this side to side edge. The spread is now in quarters.
 - (3) Fold again in half. Place over the back of chair.
- e. If blanket is on bed, remove and fold as above.
- f. Discard sheet in laundry bag. (In some settings the top sheet, if clean, may be reused as the bottom sheet. In this case, fold sheet as in "d" above and hang on back of chair.)
- a. Lower siderail on bedside near bedside table.
- b. Place hand and forearm back of patient's head and down spine to assist in raising. Remove gown, being careful to keep patient covered with blanket.
Note: If IV is in place, see Assisting the Patient to Dress and Undress, page 163.
- c. Remove pillow unless patient is more comfortable with it. Return patient to supine position.
- d. Spread towel across patient's chest.
- a. Grasp the washcloth at edge and fold 1/3 over the palm of the hand.
- b. Bring remaining opposite edge across palm of hand and hold with thumb.
- c. Bring extreme end of cloth up to palm and tuck edge under upper edge. You now have a bath-mitt. This prevents loose ends of the washcloth from dragging across the patient. These tails become cool quickly and chill the patient.
- a. Patient may wash face if he is able. Use soap only if patient desires.
- b. If patient is unable, moisten the bath-mitt with water and wash one eye from inner part of eye to outer side near ear. Rinse cloth before washing other eye. Dry well.
- c. Wash forehead from center to side. Rinse and dry well.

Important Steps

11. Wash arms.



12. Wash chest and abdomen.

13. Wash feet and legs.



14. Change bath water.

Key Points

- d. Wash cheeks from nose to side of face. Wash bridge and tip of nose. Rinse and dry well.
- e. Wash mouth area with circular motion. Rinse and dry well.
- f. Wash neck from bed line to bed line. Rinse and dry well.
- a. Place towel under proximal arm and place basin of water convenient for soaking hand. Soap may be used.
Note: If IV is in place, take care not to disturb needle.
- b. Make bath-mitt and wash entire arm with long, sweeping strokes. Give special care to the armpit with extra soaping. Rinse and dry well.
- c. Wash hands and fingers, rinse, and dry. Dry well between the fingers.
- d. Wash distal arm and hand in same manner and dry well.
- a. Place towel over chest. Fold bath blanket to waistline.
- b. Make bath-mitt and wash under the towel to include the entire chest. Wash the breast with circular movements. Rinse and dry well.
- c. Fold blanket to top of pubic bone and wash lower abdomen. Dry well.
- a. Expose only the leg being washed. Tuck blanket around patient to prevent draft.
- b. Flex one leg and place towel lengthwise on bed. Place bath basin on it.
- c. Lift foot, placing the hand under the heel, and place in water. This is very refreshing for the patient.
- d. Wash from hip to knee with long sweeping strokes. Wash from knee to foot in same manner. Rinse well. Wash foot and dry leg and foot. Dry each toe separately and place leg and foot under blanket.
- e. Wash remaining foot and leg in the same manner.
- a. Remove bath water and obtain fresh bath water 110° to 115° F.
- b. Return to patient and prepare to complete the bath.

Important Steps

15. Wash back.

16. Give back-rub.



17. Wash genital area.

Key Points

- a. Turn the patient to side. Bring arm across the chest side and cross the knee, in the direction the patient is to turn. Place one hand on the shoulder and one on the hip bone and turn the patient away from you.
- b. Wash back with long, sweeping motions. Rinse and dry well.
- a. Stand with feet about 12 inches apart and place lotion in palms of hands.
- b. Place the hands at the patient's shoulders and with fingers of each hand rub the neck with circular motions to the hairline.
- c. Place the hands at the sacral area and rub with the fingers in circular motions.
- d. Begin at the sacral area and rub toward the neckline with long, smooth strokes.
- e. Proceed down toward the sacrum with broad circular motions.
- f. Complete the back-rub by long, smooth strokes over the entire back from shoulders to sacrum.

A back-rub tones muscles and stimulates circulation. Bed confinement limits activity and the back-rub is very important to relieve tension and produce a relaxing affect for the patient. If the back-rub is administered properly, the patient will feel relaxed but invigorated. Often the back-rub provides an alternative to giving the patient pain medication or a sedative. A back-rub can be given at any time of the day or night as indicated by patient need.

- a. If patient is able, he may wash himself. It is the duty of the health worker to prepare the wash cloth and place bath equipment so that the patient can reach it. While the patient washes his genitals, the health worker may walk outside the unit but remain within hearing distance.
- b. If the patient is unable to wash his genitals, the health worker is obliged to do so. Important points to remember is that a wash cloth or towel is used to hold body tissue while another cloth washes between the folds of the body. The genitals are washed thoroughly, rinsed well, and dried carefully.

Important Steps

18. Put on a clean gown.

19. Complete the personal care.

Key Points

- c. If the patient has a catheter in place, attention is given to washing around the catheter with soap and water to remove body secretions. Rinsing follows. Check with your health facility for catheter care used in your facility.
- d. Remove, rinse, and clean wash basin, and return to storage.
- a. If the patient is able, he may put on his gown.
- b. If the patient is unable to put on his gown, proceed in this manner:
 - (1) Slip patient's hand through the sleeve and bring gown up to his shoulder line.
 - (2) Place his other hand and arm through gown sleeve.
 - (3) Fasten at neck. Tie knot slightly to one side so that it does not cause discomfort to the patient when he is lying down.
- c. If the patient has an IV in place, proceed in this manner:
 - (1) Place the bottle of fluids through the sleeve for the arm connected to the IV tubing. Exercise care not to pull on the tubing.
 - (2) Hang the bottle, pick up patient's hand, and slip gown sleeve over the hand toward the shoulder.
 - (3) Place other hand and arm in sleeve in usual manner. Fasten in normal manner.
- a. Comb hair and care for it in a comfortable manner. (Full procedure in next unit.)
- b. Care for fingernails and toenails. Take care not to break skin when doing nails. (*Caution:* A diabetic patient should have an order from his physician for nail care. An accidental break in the skin of a diabetic patient may be hazardous to him.)

Note: Some agencies do not permit cutting nails. Check with your agency procedure.
- c. Permit patient to shave. Assemble electric shaver, mirror, and electric shaving cream of patient's choice. This helps improve the male patient's morale. You may have to assist him with the razor, if he needs help. Many agencies do not permit staff to shave patients with a straight edge or safety razor. If your agency requires you to shave a patient, follow agency procedure.

Important Steps

20. Make an occupied bed.
21. Tidy room.
22. Report and record.

Key Points

See unit on Occupied Bed and follow directions given there.

Return supplies to storage area. Dispose of soiled linen. Place call signal and bedside stand near patient. Tidy bedside stand and leave items arranged in an orderly fashion. Empty ashtrays. Replace waste paper bag on bed. Obtain fresh water for patient. Ask if there is anything else you can do. Raise siderails if indicated. Tell patient approximately when you will return (15 or 30 minutes, or an hour).

Report any unusual occurrences to charge nurse. Charting example:

8:00 A.M. Complete bed bath given. Special attention given to mouth. Mouth was dry and crusty. Carefully cleansed with glycerine applicator. Became very tired with the exertion. Promptly took nap following bath.

J. Jones, NA

ITEM 2. TUB BATH

May be used for cleansing, medicated, or therapeutic baths.

Important Steps

1. Assemble bath materials.



2. Assist patient to tub.

3. Wash patient's back.

Key Points

- a. Before the patient leaves his bed, clean and prepare the bathtub and assemble equipment. Wash your hands, identify the patient, and explain the procedure.
- b. Accompany patient to bathtub in manner of ambulation prescribed by physician.
- c. Seat your patient comfortably nearby and fill bathtub one-half full. Check temperature and adjust it to read 100°-115° F. If you must add warm water during the procedure, avoid direct contact with patient's skin to avoid burns.
- a. Assist patient into tub.
- b. Hang "occupied" sign on the door and return within a few minutes to see if the patient is satisfactory.
- c. If the patient appears weak, remain with him and assist with the bath. (Male patient may use a towel for a sarong to provide privacy for himself when a female health worker cares for him.) Remain near patient at all times. Ill patients frequently become weak and may faint.

Wash the patient's back and assist him to get out of the tub. (Support the patient with hands under armpits.)

Important Steps

4. Dry patient and return him to room.
5. Restore equipment to use.

Key Points

Assist in drying the patient and putting on a clean gown. Escort the patient back into bed. Give him his backrub. Change linens.

- a. Return to the bathroom and wash bathtub. (Use scouring powder and disinfectant prescribed by your agency.)
- b. Remove towels and soiled linen and prepare the facility for another to use.
- c. Remove the "occupied" sign.

Note: If the patient does not require complete assistance, the bed may be changed while the patient bathes. The bath should not exceed 15 to 20 minutes. Close observation of the patient during the bath is very important.

ITEM 3. SITZ BATH

There may be a specially designed tub used for the sitz bath or the common bathtub may be used. The principle is the same. Equipment for the sitz bath is the same as for the tub bath except that an air ring covered with a pillowcase or towel may be used (If an air ring is not used, a folded bath blanket prevents discomfort for the patient.)

**Important Steps**

1. Prepare equipment.

Key Points

- a. Wash your hands.
- b. Water temperature should be 100°-110°F.
- c. Fill tub about 1/3 full.
- d. Place towel or pillowslip over air ring and place in bottom of tub (folded bath blanket may be used).
- e. Hang "occupied" sign on door.

Important Steps

2. Assist patient to tub.
3. Remove patient from tub.
4. Return patient to his room.
5. Restore equipment for use.
6. Record.

Key Points

- a. Check patient's identification band and explain the procedure.
- b. Assist patient to undress and sit in tub.
- c. Allow the patient to remain 20 to 30 minutes as ordered. *Check frequently* on the patient's condition, and keep the temperature of the water even. When adding hot water, avoid burning the patient.
- a. Help patient to stand up and step out of tub.
- b. Assist patient to dry himself and put on his hospital attire.
- c. Loosen drain "plug" of sitz bath so that water may drain out.

Assist patient to return to his room. (This may be on foot or by wheelchair, as needed. Bed may have been made while patient was in sitz bath. If not, make up clean bed at this time.

Clean sitz bath with scouring powder or disinfectant used in your agency and return equipment to proper place. Remove "occupied" sign from door. Leave bathroom clean, neat, and dry.

Enter on the patient's chart the time, temperature of the water, and any observation of the patient. This includes how he tolerated the bath, skin color, pulse, respiration, and general reaction. Charting example:

11:00 A.M. Sitz bath taken for 30 minutes. Stated that procedure was very comforting. Tolerated procedure well today. Vital signs remained stable.
J. Jones, NA

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ITEM 4. PARTIAL BATH

Use equipment for "Bed Bath." Refer to these parts of "Bed Bath":

1. Approach patient
2. Offer bedpan or urinal
3. Arrange bath equipment
4. Do mouth care
5. Patient movement for bed bath
6. Assemble equipment on bedside table
7. Replace top linen with bath blanket
8. Prepare patient
9. Make a bath-mitt
10. Wash face and neck

11. Wash arms
12. Give back-rub
13. Wash back
14. Wash genital area
15. Put on clean gown
16. Complete personal care
17. Make an occupied bed
18. Chart

Charting example: 9:30 A.M. Partial bath given. Is very restless and talkative.
Complained of severe pain in upper right quadrant.

J. Jones, NA

ITEM 5. EARLY A.M. CARE

This routine is usually performed early each morning before the activities of the day begin and breakfast is served. It generally consists of:

1. Offering the patient a bedpan or urinal.
2. Pulling the overbed tray across the bed.
3. Supplying a basin of warm water, soap, wash cloth, and towel.
4. Permitting the patient to wash his face and hands and get ready for breakfast.
5. Giving the patient oral hygiene care (completing this for him if he is unable to wash himself).
6. Straightening the bed linen, fluffing the pillow.
7. Positioning the bed in a Fowler's position for breakfast.
8. Removing wash basin and supplies, cleaning and returning them to storage, and leaving the room neat and tidy.
9. Charting

Charting example: 6:00 A.M. Early A.M. care given.
J. Jones, NA

ITEM 6. H.S. ("HOUR OF SLEEP") CARE OR P.M. CARE

This routine is performed at bedtime:

1. Offering the patient the bedpan or urinal.
2. Providing a basin of warm water, soap, wash cloth, and towel; permitting the patient to wash face and hands (doing this for him if he is unable).
3. Washing and drying his back; giving him a back-rub. (Follow Step 16 in bath procedure.)
4. Removing wash basin and supplies, cleaning and returning them to storage, and leaving the room neat and tidy.
5. Placing call signal and bedside stand nearby.
6. Straightening bed linens and fluffing the pillow.

7. Positioning bed to low position and adjusting siderails to *up* position.

3. Charting

Charting example: 8:30 P.M. H.S. care given early. Patient very sleepy tonight, states he needs no sedative.

J. Jones, NA

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PERFORMANCE TEST

In the laboratory setting, with a student partner, you will give a complete bed bath, tub bath, or sitz bath following the procedure outlined in the student manual. Keep in mind the supplies you will need, the major steps of the procedure, and the comfort and modesty of the patient.

You should be prepared to explain to your instructor the indications and procedure for the partial bath, the medicated bath, A.M. care and H.S. care.

PERFORMANCE CHECKLIST

MODULE: BATHS

BED BATH

1. Select and assemble all needed materials before beginning bed bath.
2. Wash hands.
3. Identify patient.
4. Explain procedure to patient.
5. Raise bed to working height. Use good body alignment procedures.
6. Offer bedpan or urinal to patient.
7. Permit patient to give own mouth care. Remove, clean, and return equipment to storage.
Describe procedure for giving mouth care to unconscious patient: include head position; Using Glycerine and lemon applicator, clean interior of oral cavity completely; rinse mouth with water or mouthwash; and dry patient's mouth.
8. Apply bath blanket correctly.
9. Remove and dispose of linen correctly (either fold clean linen and hang over back of chair, or dispose of soiled linen in proper container, being careful not to touch uniform).
10. Remove patient's gown correctly, being careful not to expose patient. Keep patient covered with bath blanket.
11. Wash and dry face using correctly folded bath-mitt.
12. Wash and dry arms correctly.
 - A. Protect bedding with towel under arm.
 - B. Basin of water on bed.
 - C. Soak hand.
 - D. Dry carefully.
 - E. Remove basin to bedside stand without spilling.
13. Wash and dry chest using circular motions. Towel across upper chest. Bath blanket to waist.
14. Fold bath blanket to pubis, towel across chest.
15. Wash and dry abdomen.

16. Expose proximal leg.
 - A. Flex leg.
 - B. Put towel lengthwise under leg.
 - C. Place bath basin on towel.
 - D. Place foot in basin.
17. Wash legs with long, firm strokes and dry well.
18. Wash and dry feet and remove basin.
19. Change water when cool: temperature at 110° to 115° F.
20. Wash and dry back.
21. Give back-rub using strong friction, and rotary movements. Give special attention to bony prominences, scapula, and sacrum.
 - A. Observe principles of body alignment.
22. Wash or permit patient to wash genital area.
23. Help patient to put on gown.
24. Comb hair or provide assistance to patient as needed (mirror, comb, brush, towel, covering, etc.).
25. Check nails: clean or cut as needed.
26. Remove soiled items, clean equipment, and return to storage.
27. Make occupied bed using good body movement and without raising dust by shaking linens. Carry linens away from uniform.
28. Leave unit neat and tidy with bedside stand and call signal within easy reach of patient.
29. Chart procedure.

TUB BATH

1. Assemble supplies and equipment for use.
2. Check tub and clean it if necessary.
3. Wash hands.
4. Identify patient and explain procedure to him.
5. Assist patient to bathroom using principles of body alignment, movement and balance for patient and self.
6. Fill tub half full with water at 100° to 105° F.
7. Assist patient into tub.
 - A. Observe principles of body alignment.
8. Hang "occupied" sign on door.
9. Check on patient frequently.
10. Wash and dry patient's back.
11. Put clean gown on patient.
12. Return patient to bed.

13. Give back-rub.
14. Change linen and dispose of soiled linen in designated manner.
15. Leave room neat and tidy.
16. Return to bathroom.
 - A. Remove soiled linen and equipment.
 - B. Clean tub.
 - C. Remove "occupied" sign from door.
17. Chart procedure.

SITZ BATH

1. Wash hands.
2. Prepare equipment: fill tub one-third full of water (100° to 110° F.). Hang "occupied" sign on door.
3. Explain procedure to patient and check identification band.
4. Assist patient to tub for 20 to 30 minutes. Check frequently. Keep water warm throughout procedure.
5. Assist patient out of tub and in drying himself.
6. Drain water from tub.
7. Help patient back to bed.
8. Change bed linens.
9. Leave room neat and tidy.
10. Return to bathroom.
 - A. Remove soiled linens and equipment.
 - B. Clean tub.
 - C. Remove "occupied" sign from door.
11. Chart procedure.

Unit 12

CARE OF THE HAIR

I. DIRECTIONS TO THE STUDENT

You will proceed through the lesson using this workbook as your guide. You will need to practice the skills on the class mannequin or a student partner in the skill laboratory. After you have completed the lesson and practiced the skills, arrange with your instructor to take the post-test.

II. GENERAL PERFORMANCE OBJECTIVES

When you have finished this unit, you will be able to demonstrate to the satisfaction of your instructor how to brush, comb, and shampoo a patient's hair correctly, without causing discomfort to the patient.

III. SPECIFIC PERFORMANCE OBJECTIVES

In the clinical setting or in the skill laboratory:

1. You will be able correctly to brush, comb, and arrange a patient's hair, and braid long hair.
2. You will be able to correctly prepare a patient in bed for a shampoo (or at the sink in the bathroom or utility room), using principles of safety and good body alignment while providing for the patient's comfort.
3. You will be able to determine when the patient's hair is clean by using the "squeaking clean" technique.
4. You will be able to improvise a trough effectively to keep the patient dry and to provide for water drainage when giving a shampoo in bed or on a stretcher.

IV. VOCABULARY

braiding (plaiting) — method of hair styling frequently used for the hospitalized patient with long hair to keep the hair neat and tidy.

brushing — method used to arrange the hair in a pleasing style by means of a hair brush; it also provides stimulation to circulation in the scalp.

dandruff — fungus infection of the scalp in which the scalp becomes dry and scaly. Daily hair care and frequent shampoos help prevent this condition. Dandruff infections may be transmitted from one person to another by sharing a comb or brush with another person.

nits — eggs (ova) of the louse (plural, lice)

pediculosis — presence of the parasitic louse on the body, in hair of the scalp, or in the hair of the pubic area.

ITEM 1. THE IMPORTANCE OF HAIR CARE

Authorities believe that the condition of the hair is affected by the general health of the individual. In some cases it is easy to note disease conditions by the appearance of the shaft

of the hair. For example, coarse, dry hair may be associated with an underactive thyroid gland (hypothyroidism); hair falling out may be associated with incidence of high temperatures lasting a long period of time.

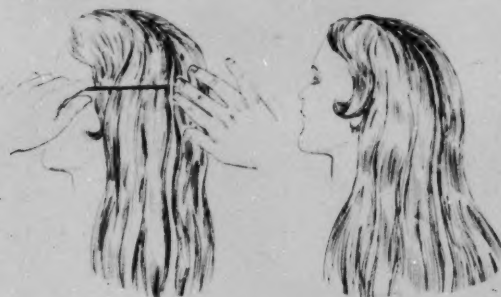
The visible portion of the hair (shaft) is supplied with nutrients (food) through the roots, which are anchored in the scalp. The supply of nutrients is therefore very important to the health of the hair. It is important to brush and comb the hair because this stimulates the circulation of the scalp, cleans the hair shafts of dirt particles and dead skin cells, and brings nutrients to the roots.

Hair care should be given regularly during illness just as it would be normally, usually with the morning care activities and throughout the day as needed. The morale of the patient is elevated when his appearance is tidy. Neat, clean hair is particularly important to the female patient's sense of well-being.

DAILY HAIR CARE: COMBING AND BRUSHING

Important Steps

1. Approach and identify the patient, explain the procedure, gain her cooperation.
2. Wash your hands and assemble the necessary equipment.
3. Place a towel over pillow
4. Turn the patient's head away from you.
5. Part the hair.



Key Points

The best time to give hair care is after the morning bath or with the early AM care. Explain to the patient the need to keep the hair healthy and clean and the scalp stimulated. Encourage your patient to comb or brush her own hair. You will find that this is a good indication of your patient's progress after such surgery as mastectomy (removal of a breast), or for paralyzed patients, as well as countless other patients. Since this is a daily procedure, patients are encouraged by their progress when they can do this for themselves. However, you must help the patient with this task until she can manage it.

Be sure that a clean comb, brush, hair cream, hair spray, and mirror are placed conveniently on the bedside stand or overbed table.

Put a clean towel over the patient's pillow to keep it from becoming soiled. Be sure the patient is well covered with a bath blanket to keep warm during the procedure. (Since hair care is part of the daily patient care, the bath blanket will already be in place.)

This will make it easier for you to comb and brush the back of the hair. It will also avoid getting the hair in the patient's face and eyes.

It will be easier for you to handle if you part the hair from the front to the back. The hair is thinner in front and it will eliminate some of the pulling of the hair, thus making it more comfortable for your patient.

The teeth of the comb should be dull so that they will not scratch the scalp. Stiff bristles on the brush are best for hair care. Brushes which have widely separated tufts (clumps) of bristles are the easiest to clean.

Public Health regulations require sterilization (killing of germs by submitting the item to various heating methods) of brushes made of

Important Steps

6. First, divide the hair into three main sections, and then as you work, handle it in smaller subsections.

7. Brush (or comb) the ends first and proceed upward toward scalp.



8. Keep your hand between the scalp and the end of section of hair.



9. Continue brushing (combing).

10. Arrange the hair attractively.

Key Points

animal bristles before they are sold in stores, to prevent the transmission of anthrax from possibly infected bristles.

This will make it easier for you to work with the hair and will also make it simpler for you to proceed in a systematic way as you comb or brush. You will reach every portion of the scalp if you proceed in this manner.

Hold each small section of the hair between your index finger and the thumb (left hand if you are right-handed and in the right hand if you are left-handed). Folding each section of the hair as you work with it will prevent undue pulling and will therefore be more comfortable for your patient. Remember that some people have extremely sensitive scalps and you must be particularly careful not to hurt them. During an illness, the scalp often seems to be more sensitive than usual.

Brush the hair with gentle, firm, rapid strokes. This will stimulate the circulation in the scalp and loosen dry scales, dead cells, and dirt from the scalp and shafts of the hair. If you encounter tangles or snarls, work slowly, gently, and patiently to smooth out the hair. Sometimes wetting the hair slightly with water or alcohol will assist in smoothing out the snarls. If you groom the patient's hair daily and as needed throughout the day, there should be no snarls to worry about. You may not cut a patient's hair to remove the snarls.

This will provide a counterforce when you are combing snarls from the hair. It will also prevent undue pulling on the scalp.

Talk to the patient in a warm, concerned manner. Be polite. Answer her questions if you can. If you are unable to answer her, tell her you will refer her question to the nurse or doctor. As you work, observe the condition of the patient. If she becomes unusually tired, you may need to complete the hair care later in the day. However, you must complete it each day.

Continue combing or brushing with care and firm gentleness until the three sections on the first side are completed.

The hair should be neat and simply styled. You are not expected to be a professional hair dresser. The patient will usually be able to tell you what style is most comfortable. Short hair styles are the easiest to care for when a person must be in bed for long period of time.

Important Steps

11. Move to the other side of bed.
12. Spray the hair or apply hair cream.
13. Remove the towel.
14. Clean the comb/brush.
15. Return items to bedside stand.
16. Record on nurse's notes.

Key Points

Have the patient turn her head away from you. Proceed in the above method (steps 8-10). Remember to brush (comb) the end sections first. Hold the hair near the scalp, thereby preventing unnecessary pulling on the scalp and discomfort for the patient.

When you are finished with all three sections, style this side of the hair to match the first side. If the hair is long, you may want to braid it. The procedure for braiding is found later in this unit.

Use as desired by the patient. These will assist in keeping the hair neat and in place.

Discard it in the soiled-linen hamper.

Remove excess hair from the comb or brush, discard into wastebasket. Wash comb or brush if soiled.

Leave the room tidy. Arrange items (water pitcher, books, etc.) on bedside for the patient's easy reach.

Record any unusual observations about the condition of the scalp or hair. Usually the entry will be included as a part of the morning care. Specific entry of hair combing is made only when unusual conditions are observed. Charting example:

8:00 A.M.: Scalp noted to be very red and crusty when hair was combed. Complaining of severe itching. Dr. Smith was notified when he visited during bath procedure. J. Jones LVN

ITEM 2: BRAIDING

Braiding is a method of weaving, entwining or interlacing together three strands of hair, sometimes used as a hair style for youngsters or for patients with long hair. This style is easy to maintain and comfortable for the patient; it is for the latter reason that this style is recommended during hospitalization. Braided hair helps to keep the long tresses (hairs) from becoming matted or tangled. Both of these conditions are uncomfortable to the patient and are particularly painful when combing. Braiding helps keep the hair off the patient's neck, allows greater comfort by keeping her cooler, and prevents heat rash on the back of the neck.

Proceed through this lesson. You may practice the braiding portion of the lesson in the skill lab with three strands of heavy knitting yarn (or similar materials) or on a classmate who has long hair and is a willing subject. When you are sure you can braid, ask your instructor to observe you in a test situation. You will be tested on the neatness of your finished product. The hair should be firmly anchored to prevent the braids from coming apart. It can be tied with a ribbon or a rubber band.

Important Steps

1. Explain the procedure to the patient.
2. Divide the hair into three even sections on each side of head.



3. Hold the left strand of hair in the closed fist of your left hand.
4. Hold the center strand in your left hand.
5. Hold the right strand in your right hand.

6. Cross the right strand over the center strand.



7. Cross the left strand over the center.



8. Cross the right strand over the center.

**Key Points**

You will be using this method as a part of the basic hair care procedure. Tell the patient that you will be braiding her hair to provide for her comfort by preventing her hair from becoming matted or tangled. Give her a neat, simple hair style. Your patient will already be positioned on the towel-covered pillow with her face turned away from you. The hair will be parted in the center (from front to back) and you will be working with the hair on the exposed half of the head.

Usually the hair can be handled in three large sections for the weaving process. Proceed with each of the three sections in the following manner.

Hold the strands taut (firm) so that as you entwine the strands, the braid will be firm and will not loosen when the patient moves around.

Between index finger and thumb.

Remember to keep all strands taut. If you pull too hard, however, it will hurt the patient's scalp and she will complain. After practice, you will learn the correct amount of "pull" that is needed to keep the strands taut.

It then becomes the middle strand, and will be transferred to the left hand. The center strand is not transferred to the right hand.

This strand becomes the middle strand. Move it to your right hand.

Note: Step 6 can start with the left strand over, step 7 would then be the right strand over the center, and so on. The important point is the crossover of the alternate outside strands.

Important Steps

9. Continue, repeating Steps 6, 7, and 8.



10. Secure end of braid.



11. Move to other side of the bed.

Key Points

Repeat until all the strands of hair are completely braided. Remember: the alternate outside strands cross over the center strand.

Bind with a rubber band looped several times around the tip end of the braid. This will prevent the braid from becoming unwound. *Note:* Wind rubber band loosely. If applied too tightly, it will injure the hair shaft.

If a bright-colored ribbon is available, it can be tied at the tip end (covering the rubber band). This provides a touch of gaiety for the patient and will often raise her spirits. Arrange braid to one side of head. If it is allowed to fall straight down at the back of the head, it will be very uncomfortable because she will have to lie on it.

Proceed with the other side of the hair, as in Steps 2 through 10.

ITEM 3: SHAMPOO

Shampooing of the hair is done only upon the order of the physician. (You may have to ask for permission if the patient requests a shampoo and it has not been ordered.) Shampoos may be given in bed with the patient in a sitting position (Fowler's) or in a recumbent position (lying on the back, or supine). It may also be given in the utility room on a stretcher, or in the shower. The supine position is preferred for some patients and by some nurses. However, patients with disease conditions such as asthma, some heart diseases, and some lung diseases have difficulty breathing unless the head and chest are elevated as in the Fowler's position. Thus, the sitting position must be maintained for these patients throughout your care for them.

Today, however, many patient rooms are equipped with showers, and the procedure of choice may be to assist the patient with the shampoo while he or she is in the shower. This, of course, will depend entirely on the patient's general condition. Your charge nurse will be able to help you make the correct decision.

Shampoos are given to keep the hair clean and free of debris; to prevent or remove dandruff; to remove lice (pediculosis); to improve appearance and therefore assist in cheering the patient; and to improve the circulation of the patient's scalp.

Important Steps**Bed Shampoo:**

1. Approach the patient, check her identity; explain procedure and enlist her cooperation.

Key Points

Be sure your patient is well rested. Shampooing is a lengthy procedure and usually tires the patient a great deal. It is wise to consider a rest period for the patient after the completion of the shampoo. Timing is therefore important for this procedure. Usually your patient will be told about the shampoo. Perhaps she has requested it.

Important Steps

2. Check the room for temperature and "work" space.
3. Assemble equipment conveniently at site of shampoo (bed, shower, or utility room).



4. Place the chair at the head end of the bed (on the working side).
5. Cover the chair with plastic sheeting.
6. Place a basin or pail on the chair.
7. Remove the pillow from under the patient's head.
8. Place a bath blanket on the patient.
9. Fan-fold the top linens to the bottom of the bed.

Key Points

Be sure the room is warm and free of drafts and you have space to move about easily during the procedure. *Wash your hands.*

- a. Pitcher of water (105°F.).
- b. Second pitcher of water (115°F) to add to first pitcher to maintain its warmth throughout procedure.
- c. Bath thermometer, if available; if not, a few drops of water on the inner surface of your wrist will indicate when the water in the pitcher is comfortably warm.
- d. Shampoo, liquid soap, or cream either provided by your agency, or the patient's own.

Note: If shampooing is to remove lice, a special shampoo such as "Cuprex" or "Kwell" may be used.

- e. lemon juice, vinegar, or commercial rinse.
- f. Pail or basin to catch drainage.
- g. Rubber or plastic sheet for bed protection.
- h. Bath towels (at least 2).
- i. Face towel and safety pin, to protect patient's neck and shoulders.
- j. Bath blanket.
- k. Kelly pad, or trough (paper or metal).
- l. Plastic cover for chair.
- m. Hair dryer, if available.

The back of the chair will be against the wall.

This will protect the chair from spilled water.

It will be used to collect the rinse water.

This will allow the patient to move easily toward the proximal (near) side of the bed. In this position, you need not reach across the bed and hyperextend or strain your back as you work.

This keeps her warm and protects the bed linens from becoming wet.

Have the patient hold the top edge of the bath blanket securely, while you reach under the bath blanket and draw the spread, blanket, and top sheet to the bottom of the bed. Arrange them in a fan-fold fashion at the foot of the bed.

Important Steps

10. Place a rubber (or plastic) sheet at the top edge of the mattress.
11. Wrap a towel around the patient's shoulders.
12. Place a trough made of rubber, plastic, metal, or paper under the patient's head.
13. Moisten the hair with water.
14. Apply the shampoo.
15. Spread the shampoo through hair.
16. Rinse with water.
17. Reapply shampoo.
18. Rinse with water.
19. Test for clean, well-rinsed hair.
20. Apply rinse solution.
21. Dry the patient's ears and neck.

Key Points

You may also use a draw sheet. Put it at the head end of the bed to cover the bed as far as the patient's shoulders. Fasten securely by tucking it under the edges of the mattress.

Secure the ends with a safety pin. This will help keep the patient warm and dry during the procedure. (The beautician uses a similar procedure when giving a shampoo.)

Place one end of trough under the head and one end in drainage pail.

Note: Procedure for making a trough from plastic and newspaper will follow at the end of this section.

Pour a small amount of water through the patient's hair from the front hairline to the back to moisten the hair thoroughly. Take care not to get water in the patient's eyes or face. A washcloth may be folded over the patient's eyes as a protection from the soap and water.

Use according to directions on the container; only a small amount of shampoo is needed.

Work the shampoo into a good lather using the balls of your fingertips to massage firmly and vigorously all portions of the scalp. (If the patient has a particularly sensitive scalp, you may need to be less vigorous — the patient will probably coach you on this aspect.) Start from the front hairline and proceed systematically toward the back of the head, as you would shampoo your own hair. Add water as needed to keep the lather going.

Rinse thoroughly.

Repeat washing cycle as in Step 15. Remember to observe your patient for excessive fatigue (tiredness). You may need to speed up the procedure.

Pour water gently and carefully, rinsing all the shampoo out of the hair. You may need to apply one more soaping if the hair is not "squeaking clean."

Continue rinsing the hair until strands pulled between your index finger and thumb produce a squeaking sound.

It may be necessary to use a commercial rinse, lemon juice, or vinegar solution (one ounce to a quart of water) to rinse the shampoo more easily from the hair.

Use a heavy towel; dry thoroughly.

Important Steps

Key Points

22. Dry the hair.

Use a heavy bath towel to rub the hair vigorously between folds of the towel. Dry the hair as thoroughly as possible. Keep your patient warm and dry throughout procedure. Avoid drafts.

An electric hair dryer may be used if available in your agency. *Note:* If the patient brings her own hair dryer to the hospital, it must be checked by the maintenance department to see that it is electrically safe for use in your agency. This is a safety procedure to be followed without exception. If it is electrically safe, your patient will not suffer a burn.

23. Comb and/or brush the hair.

Be sure that the comb and brush are clean. Work with a gentle stroke. Do not pull the hair. Work with small sections of hair to comb out tangles. Always keep your hand between the patient's scalp and the end of the strands as you comb or brush.

24. Arrange the hair.

You may need to secure the hair with hairpins; you may be asked to put the patient's hair up on rollers. If you do not know how to do this, see if someone can assist you. If no one is available, simply arrange the hair in a neat, attractive way; allow it to dry thoroughly.

25. Remove wet towels, trough, and pail.

Place them in the appropriate area. Clean the pail and trough so they are ready for the next patient.

26. Replace top bed linens.

Remove the bath blanket and store it in the designated area. If soiled, put it in the soiled linen hamper. Raise the siderails, if indicated. Leave the patient dry, neat, clean, and comfortable.

27. Record the shampoo on the nurse's notes.

Report the time, method, and any unusual reactions you observed about the patient, scalp, or hair. Charting example:

10:30 A.M. Bed shampoo given. Became very tired and weak. Stated it "felt very good to have clean hair again." Prepared for nap.

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28. Check on the patient at frequent intervals.

This is an extremely tiring procedure for the patient. Be sure that she is not overly exhausted; assist her in relaxing and resting for a brief period after the shampoo.

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ITEM 4: PREPARE A TROUGH

The trough is a piece of equipment (metal, plastic, paper, or rubber) used to protect the bedding from becoming wet. It guides the flow of water during the rinsing cycle into a waste receptacle.

Important Steps

1. Spread a section of newspaper on a flat surface.
2. Place plastic (or rubber) sheeting on top of the papers.
3. Roll long sides of paper and plastic sheeting toward center.
4. Place one end of the trough under the patient's head.
5. Place the other end of the trough in a waste pail (basin) on the chair.

Key Points

A paper, rubber, or plastic trough is improvised if a metal drain tray or trough is not available. Use several thicknesses of paper (6 to 8 sheets), spread out on the bed or a table top in the utility room, to the length of 3 feet (36 inches).

Sheeting should be about 36 inches long and 24 inches wide.

Roll each side toward the center of the sheet, leaving the center third flat. This will form two rolled edges.

Place the center flat surface under her head, allowing the rolled edges to provide a channel for the water to run through.

Water will run off the patient's hair through the trough to the waste pail. Arrange the trough so that it slopes down gradually from the patient's head to the side of the bed. You may need to use a rolled bath towel or small pillow under the trough to obtain a slope so that the water will run freely into the waste pail.

ITEM 5. STRETCHER SHAMPOO**Important Steps**

1. Approach the patient as in the procedure for bed shampoo.
2. Check conditions of room where shampooing will be done.
3. Wash your hands. Assemble the equipment at the side where you will give the shampoo in the bathroom or utility room.
4. Place a bath blanket over the patient.
5. Fan-fold the top linens to the bottom of the bed.
6. Bring the stretcher (guerny) to the bedside.

Key Points

See bed shampoo procedure. Explain that you will be taking her to the bathroom or utility room on a stretcher for her shampoo.

Be sure that it is warm and free of drafts and that there is enough space for you to move easily around the stretcher.

Proceed as in Step 3 of the bed shampoo. Also, you will need a shampoo spray attachment for the faucet.

This will keep her warm and protected throughout the shampoo.

Have the patient grip the top edge of the bath blanket and hold it securely while you reach under the bath blanket and draw the top linens down to the bottom of the bed. Fan-fold them neatly at the foot of the bed.

Lock the wheels of the stretcher and the bed to prevent rolling when the patient moves onto the stretcher.

Important Steps

7. Move the patient to the stretcher.
8. Attach the safety belts.
9. Unlock the stretcher wheels.
10. Transport the patient to the shampoo area.
11. Place the stretcher at the sink.
12. Wrap a towel around the patient's shoulders and neck.
13. Place the trough (metal, rubber, or plastic and newspaper) under the patient's head.



14. Attach the shampoo spray to the faucet and regulate the flow of water and temperature warmth to 105°F. Adjust it to a gentle flow to avoid undue splashing.
15. Moisten the hair with the shampoo spray attachment.
16. Apply the shampoo and spread it through the hair.

Key Points

Stand with your body bracing the stretcher tightly against the bed. Ask the patient to move her head and shoulders onto the stretcher. Then lift her hips and legs onto the stretcher. Assist the patient as needed in moving. Take precautions to keep her covered with the bath blanket.

Secure the belts firmly around the patient (there is usually one over the chest and one over the thighs). This will prevent the patient from falling off the stretcher.

If the back wheel is placed in a swivel position (labeled on the wheel), you can easily direct the stretcher as you push it down the corridor.

Head the end of the stretcher toward the sink. Lock the wheels so that the stretcher will not move during the shampoo procedure.

Secure the ends with a safety pin at the patient's chest to keep her warm and dry.

Adjust the patient's head on the trough placed at the top edge of the stretcher. The other end of the trough will extend into the sink. The patient's head will hang slightly over the end of the stretcher. A small plastic-protected pillow may be placed under her shoulders if she is uncomfortable.

If no bath thermometer is available, let the water run over your inner wrist; regulate it so that it is comfortably warm.

Wet the hair thoroughly. Avoid splashing.

Apply it as directed on the container. Use the same procedure as the bed shampoo, Steps 15 through 22.

Important Steps

17. Comb or brush the hair.
18. Remove the articles used for the shampoo (towels, trough, shampoo, rinse).
19. Return the patient to her room.
20. Place the stretcher at the side of the bed.
21. Pull the top covers up over the patient.
22. Take the stretcher back to the storage area.
23. Return to the utility room or bathroom.
24. Return to the patient's room.
25. Record the shampoo on the nurse's notes.

Key Points

Arrange in a neat style. Take care not to injure the scalp during this process. The scalp may be unusually tender after the vigorous washing. Wrap the hair with a clean, dry towel to avoid chilling while transporting patient back to her room.

Dispose of them or return them to the designated storage area.

Unlock the stretcher wheels. Make sure that the safety belts are fastened securely, then transport the patient to her room. Push the stretcher from the head end of the cart. You can see where you are going; also it is easier to push an object than pull it. Remember your lesson on body movement.

Lock the wheels. Brace the stretcher tightly against the bed with your body while the patient moves to her bed.

Remove the bath blanket and store it in the designated place (bedside stand, or closet). Remove the towel from around her hair, and discard it. Tighten the bed linens, place the call light within her reach. Move the bedside stand close to her. Be sure she has fresh drinking water. Leave her comfortably resting.

Strip off the soiled linens, wipe the mattress dry and make it up with a clean sheet, ready for the next patient.

Tidy the room, remove the shampoo spray from the faucet, and return it to the storage area.

Check on her condition. If she needs nothing, tell her to rest and that you will come in later at a designated time (i.e., 15 minutes, 30 minutes, or 1 hour). If you tell the patient when you will return, she will usually await your arrival and not disturb you from your other duties by putting on the light frequently.

Report and record the time, method, and any unusual observations noted about the patient, her hair and scalp. Record her response to the procedure — "very tired," "with no apparent ill effects," etc.

Charting example:

10:30 A.M. Taken to bathroom for shampoo. Tolerated procedure very well. Clean hair seemed to improve her spirits greatly. Returned to bed with no apparent ill effects.

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ITEM 6: GENERAL INFORMATION

In your hair care experiences, you may encounter individual differences in hair texture and styling. Hair is considered an appendage of the skin. Just as skin textures vary, so do hair textures. Hair may be thick, coarse, straight, or very tightly curled (kinky, as it is sometimes known). Or, when hair is wet after a new permanent, it often becomes very curly after it dries — this is usually described as kinky. Another type of hair is thin, fine or wispy, and smooth, and must be handled differently from the coarse-textured kind.

If the hair is tightly curled as in the Afro-style, or in a fresh, tightly curled permanent, use a wide-toothed comb to comb the hair carefully and gently. This will prevent unnecessary pulling as you try to comb out tangles and snarls. Tightly curled hair frequently needs special conditioners or sprays. Your patient can give you this information. Hair should be combed straight out from the scalp; always keep your hand between the section being combed or brushed and the patient's scalp.

Since wigs and wiglets are worn by many people today, you must see that they also are cared for with daily combing or brushing. However, shampooing wigs should be left to the professional hairdresser because some wigs and wiglets are very expensive and are easily damaged from improper shampooing.

(You may have to pay for a replacement wig for the patient, if you damage it!).

If you feel that you are now ready for your post-test on this lesson, see your instructor and set up a time for your test. Both a written test and a demonstration are required. You will not be permitted to have your workbook or notes with you during the testing.

POST-TEST

Complete the following statements by filling in the blanks.

1. There are three main reasons for daily brushing and combing of the hair. Name two of them:

(1) _____

(2) _____

2. Water for shampoos should be around _____ °F.

3. A Kelly trough should be about _____ feet long.

4. The method of hair styling that is most efficient for keeping long hair neat and tidy is _____.

5. A common fungus infection on the scalp is _____.

6. The presence of parasites on the scalp is called _____.

7. There are several reasons why hair may become matted. Name two:

(1) _____

(2) _____

8. To prepare a lemon juice rinse, one ounce of lemon juice should be mixed with _____ of water.

9. Before giving a patient a shampoo in bed, you should make sure the room is _____ and free from _____.

Complete the following statements with words from this list.

alcohol	dirty	hold	pull	soft
anthrax	drawsheet	matted	rinse	squeak
away from	far	near	roots	stiff
back	fine	nits	sensitive	stretcher
basin	food	oil	shampoo	toward
bath blanket	foot	patient	side	vinegar
circulation	front	pediculosis	slide	water
dandruff	head	pillow	soap	wet

10. Brushes with _____ bristles are best for hair care.
11. Illness often causes the scalp to become more _____.
12. You should _____ the patient's hair carefully and not _____ it when brushing and combing it.
13. The patient's head should be turned _____ you when brushing her hair.
14. It is usually more comfortable for a patient if her hair is parted from _____ to _____.
15. Braided hair does not easily become _____.
16. A _____ protects the patient.
17. A _____ protects the bed linen.
18. Hairs must receive _____ through their _____.
19. The scalp becomes dry and scaly when a patient has _____.

20. The first step in shampooing hair is to apply a small amount of _____, beginning at the _____ of the hair.
21. Bed linen should be moved to the _____ of the bed when you are shampooing a patient.
22. A cotton pad dipped in _____ or _____ can be used in removing foreign matter from tangled hair.
23. Hair may be rinsed with _____ or _____.
24. Brushing the hair stimulates _____ in the scalp.
25. A completed braid should be arranged at the _____ of a patient's head.
26. A trough should be placed to drain toward the _____ of the bed.
27. In shampooing, the _____ should be moved to the _____ side of the bed to prevent strain on your _____.
28. A _____ is needed for giving a shampoo in the bathroom.
29. Clean hair will _____ when rubbed between the fingers.

Circle "T" if the statement below is true and circle "F" if it is false.

- T F 1. Shampooing is an effective means of removing dandruff and lice.
- T F 2. The best time for giving hair care is after the morning bath.
- T F 3. A patient's hair should be shampooed only on the order of a physician.
- T F 4. Each time a shampoo is given to a patient, it should be recorded in the nurse's notes.
- T F 5. After giving a shampoo in the utility room, you should make sure the area is left neat and clean before returning the patient to his room.
- T F 6. Agency policy usually is to encourage patients to perform their own hair care.
- T F 7. In braiding hair, you begin with the right strand in the right hand and the left strand in the left hand.
- T F 8. Braids are formed by alternately crossing the left and right strands over the center strand.
- T F 9. Rubber bands should not be used to anchor braids in a patient's hair.
- T F 10. A trough may be made of plastic, rubber, paper, or metal.
- T F 11. Care of Afro-type hair style requires a fine-toothed comb.
- T F 12. Care of wigs should be left to professional hairdressers.

POST-TEST ANNOTATED ANSWER SHEET

1. Stimulates circulation of scalp, cleans hair shafts, brings nutrients to roots (p. 204)
2. 105° F. (p. 209)
3. 2 feet
4. braiding (p. 206)
5. dandruff (p. 203)
6. pediculosis, lice
7. long hair becomes tangled; not combed daily (p. 206)
8. one quart (p. 210)
9. warm, drafts (p. 209)
10. stiff (p. 204)
11. sensitive (p. 205)
12. hold, pull (p. 205)
13. away from (p. 204)
14. front; back (p. 204)
15. matted (p. 206)
16. bath blanket (p. 209)
17. drawsheet (p. 210)
18. food; roots (p. 204)
19. dandruff (p. 203)
20. water; front (p. 210)
21. foot (p. 209)
22. water; alcohol (p. 205)
23. water; vinegar (p. 210)
24. circulation (p. 204)
25. side (p. 208)
26. side (p. 212)
27. patient, near, back (p. 209)
28. stretcher (p. 212)
29. squeak (p. 210)

True or False

- | | | | |
|------|------|------|-------|
| 1. T | 4. T | 7. T | 10. T |
| 2. T | 5. F | 8. T | 11. F |
| 3. T | 6. T | 9. F | 12. F |

PERFORMANCE TEST

In the skill laboratory your instructor will ask you to perform three of the five activities listed below, without reference to any of the source materials. For some of the activities you might have to ask another person to take the place of a patient.

1. Given a patient who has suffered a stroke and is unable to lift her arms to comb and brush her hair, explain and demonstrate how you give this patient daily hair care.
2. Given a female patient who has very long hair and is unable to braid it herself because the exertion would be too strenuous for her condition, proceed to braid the hair following the daily brushing and combing.
3. Given a person who is conscious but unable to leave the bed because of recent abdominal surgery, set her up for and demonstrate a shampoo in bed.
4. Given a convalescing patient who is still on partial bed-rest, ready to be transferred to an extended care facility, who would like her hair washed before going, explain and demonstrate how to wash her hair in the bathroom and explain and demonstrate how to transport her there on a gurney.
5. Given a patient who is to have a shampoo in bed, demonstrate and successfully make a newspaper trough, apply it correctly, and then wash the patient's hair.

PERFORMANCE CHECKLIST

HAIR CARE SKILL

BRUSHING HAIR FOR ROUTINE DAILY CARE

1. Wash hands.
2. Identify patient.
3. Explain procedure.
4. Assemble correct equipment (items 5-11).
5. Prepare patient properly with bath blanket in place, towel over pillow, and patient's head turned away.
6. Part hair in center from front to back, and divide it into three sections on each side.
7. Brush each section individually, end sections first, holding each section correctly between index finger and thumb.
8. Brush each section with gentle, rapid strokes, using sufficient firmness to stimulate scalp and loosen scales and dirt.
9. Smooth out tangles and snarls, using comb when needed, and using cotton pad to wet hair if necessary.
10. Perform all brushing and combing without pulling at scalp or otherwise causing discomfort to patient.
11. Finish procedure with hair arranged neatly and symmetrically.
12. Apply hair spray without spraying any on patient's face.

13. Hold up mirror for patient to view hair.
14. Remove towel and dispose of it in receptacle.
15. Remove bath blanket and restore bed linen to proper position.
16. Remove and dispose of hair from brush and comb.
17. Tidy up area, returning all items to their proper places.
18. Complete procedure within time limit of _____ minutes.

BRAIDING HAIR

1. Wash hands.
2. Identify patient.
3. Give adequate explanation of reasons (comfort, neatness, prevent hair from getting matted).
4. Divide hair into 3 sections on each side.
5. Begin braiding with left strand in left hand and right strand in right hand.
6. Proceed by crossing right and left strands alternately over center strand.
7. Complete braiding without losing hold on strands or causing them to become partly unraveled.
8. Exert sufficient tension on strands to form neat braids without pulling at patient's scalp.
9. Bind tips of braids with ribbon.
10. Arrange braids to fall at sides of head.
11. Produce braids that are neat and firm, without gaps between the intertwined strands.
12. Complete procedure within time limit of _____ minutes.

BED SHAMPOO

1. Assemble all material needed for shampoo.
2. Identify patient.
3. Explain procedure.
4. Construct trough with edges properly rolled.
5. Place chair at head of bed, protected by plastic cover, and place pail on chair.
6. Fill pitchers with warm water, one at 105° and the other at 115° F.
7. Place drawsheet at head of bed to protect linen.
8. Prepare patient in correct position near side of bed with pillow removed, bath blanket in place, and linen folded toward foot of bed.
9. Place towel securely around patient's shoulders.
10. Adjust bed to low position, head section lowered and siderail down.
11. Place trough correctly under patient's head, providing it with sufficient slope for drainage into pail.

12. Check temperature of water before beginning shampoo; add water from 115° pitcher if necessary.
13. Complete all preparations before beginning shampoo.
14. Moisten patient's hair with water before applying shampoo.
15. Apply shampoo in quantity indicated by directions on container.
16. Work shampoo into hair from front hairline to back of head, massaging scalp firmly with fingertips.
17. Rinse hair, removing all shampoo and taking care that water drains properly into trough.
18. Repeat cycle (13-15) until hair is clean, testing for squeak after each rinse.
19. Check water temperature and adjust as necessary to maintain at about 105°F.
20. Carry out procedure without getting shampoo or water on patient's eyes or face, and without undue wetting of other areas.
21. Dry ears, neck and hair thoroughly with bath towel.
22. Brush hair and comb out tangles, holding strands correctly and not pulling at scalp.
23. Hold up mirror for patient to view hair.
24. Remove towel and other materials from bed, and dispose of soiled materials.
25. Restore linen and bed to original positions, restore pillow, and remove bath blanket, leaving patient dry and comfortable.
26. Remove and dispose of hair from brush and comb.
27. Tidy up area, returning all articles to their proper places.
28. Record time and method in nurse's notes.
29. Complete procedure within time limit of ____ minutes.

STRETCHER SHAMPOO

1. Assemble all materials in utility room before moving patient.
2. Identify patient.
3. Explain procedure to patient.
4. Place bath blanket over patient.
5. Fan-fold top linens to bottom of bed.
6. Adjust bed to low position and lower siderail.
7. Place stretcher in correct position beside bed.
8. Lock stretcher and bed wheels before moving patient.
9. Use correct body position when moving patient, standing with body bracing stretcher tightly against bed.
10. Direct and assist patient in moving (head and shoulders first, then hips and legs) onto stretcher without undue strain on patient or self.
11. Keep patient properly covered by bath blanket while moving.
12. Secure safety belts firmly before unlocking stretcher wheels.

13. Transport patient without bumping or jolting, pushing stretcher from head end.
14. Place stretcher correctly, head end toward sink, and lock wheels.
15. Secure towel in place around patient's neck and shoulders.
16. Place trough under patient's head, arranging for sufficient slope for drainage into sink.
17. Adjust patient's head in comfortable position, placing pillow under shoulders, if necessary.
18. Attach spray to faucet and adjust to obtain gentle flow of water at about 105°F.
19. Indicate readiness to proceed with shampoo at this point.
20. Wrap patient's hair in clean, dry towel.
21. Remove trough, remove towel from patient's shoulders.
22. Transport patient back to room without bumping or jolting, pushing stretcher from head end.

Unit 13

SPECIAL SKIN CARE

I. DIRECTIONS TO THE STUDENT

Read the Introduction to this lesson carefully. It will describe some of the basic knowledge and techniques for giving special skin care to patients, such as one who is incontinent, a patient in a cast or traction, or one with a colostomy or ileostomy.

II. GENERAL PERFORMANCE OBJECTIVE

When you have finished this unit, you will be able to give special care to the geriatric and incontinent patient, to the patient in a cast or in traction, or to one with an ileostomy or colostomy, while maintaining good body alignment for the patient and yourself, and providing a safe, comfortable environment for the patient.

III. SPECIFIC PERFORMANCE OBJECTIVES

On completion of this unit, you will be able to:

1. Prevent decubitus ulcers by correct examination of the patient's skin, and removing pressure from bony prominences (such as the sacrum or heels) by correctly changing the patient's position and using appropriate supportive aids.
2. Identify specific skin indications such as cyanosis, increased redness, or broken skin which could lead to a decubitus. Then begin appropriate preventive measures.
3. Detect signs of impaired circulation of an extremity in a patient with a cast, and start appropriate nursing measures to prevent further impairment.
4. Change an ileostomy or colostomy prosthesis using good aseptic technique, observing the skin condition, applying the appropriate ointment and prosthesis, and providing understanding and reassurance to the patient.
5. Clean and cut patient's toenails or fingernails according to your agency procedure.

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IV. VOCABULARY

abrasion — scraping of the skin, a minor injury.

buttocks — gluteal prominence, the rump, rear, or seat.

circulation — movement in a circle; the movement of the blood from the heart through a system of arteries and back to the heart by a system of veins (the circulatory system).

colostomy — an incision into the colon to form an artificial anus.

compound fracture — a broken bone which has an accompanying skin wound, e.g., the bone protrudes through the skin.

cyanosis — bluish color due to decreased oxygen content in blood.

decompose — decaying process; breaking down of chemicals to a simpler form.

decubitus ulcer — a bedsore or pressure sore occurring over any bony prominence; caused by prolonged pressure on the skin covering that area, which decreases the circulation.

dermis — second layer of the skin (commonly called the true skin).

epidermis — the outer layer of skin.

- evaporation — changing from liquid form to a vapor (steam).
excoriation — damage or abrasion of skin caused by chemicals, burns, e.g., diaper burn on an infant.
feces — the solid waste materials which accumulate following digestion; the stool.
fracture — a broken bone.
ileostomy — an incision into the ileum of the small intestine to form an artificial anus.
incontinence — inability to retain feces or urine, lack of voluntary control over anal or urinary sphincter.
integumentary — covering such as the skin of the body (integumentary system).
involuntary — lack of voluntary control over anal sphincter, inability to retain feces.
necrosis — death of tissue.
scapula — a large, flat, triangular bone of the shoulder.
sebaceous glands — oil-secreting gland of the skin.
simple fracture — a broken bone which does not have an accompanying skin wound.
Sims' position — lying on the side (either right or left) with bottom leg straight, top leg flexed, bottom arm behind back, and top arm flexed in front.
sweat (perspiration) glands — glands of the skin which secrete a salty, colorless liquid; it keeps the body cool by evaporation.
traction — an arrangement of ropes, pulleys, and weights that exerts a pulling force on a part of the body which requires this type of treatment.
wound — a break in the continuity of soft tissues due to trauma (injury).

V. INTRODUCTION

Care of the skin is basic to all nursing care. It is a routine part of your daily patient care as well as a special procedure in certain instances such as with the newborn infant, the geriatric patient, the incontinent patient, the patient who is immobilized over a long period of time due to a cast, traction or paralysis. Frequent bathing of all or parts of the body prevents skin irritation from perspiration, urine, feces, or drainage. Bathing should depend on the regular habits of the individual as well as the condition of the skin. Some people take daily baths; others take baths only once or twice a week because of excessive dryness of the skin. Of course, in this instance certain areas must be washed daily: groin, underarms, face, hands, perineum and body creases.

Skin is a remarkable part of the body. The general condition of the skin provides us with one indicator of the general health of the patient. The outer layer of the skin is called the *epidermis*, often referred to as false skin. It is the layer which constantly sheds dead cells. It also acts as a barrier between the individual and his environment by providing protection against physical attack on the underlying tissues and preventing microorganisms and other foreign substances from entering the body.

The *dermis* is the layer directly below the epidermis and is called the true skin. This layer of skin is made up of tissue which contains hair follicles imbedded in bundles of smooth muscle, sweat glands, sebaceous glands, blood vessels, and nerve endings. Thus the skin also has a sensory role; i.e., the skin is sensitive to touch (tactile sense) and temperature. The skin also acts as a regulator of body fluids and temperature. The sweat glands excrete waste products from the body and the evaporation of these waste products has a cooling effect, thereby helping to regulate the body temperature.

The skin varies in thickness in different parts of the body, e.g., the eyelid is paper thin, while the sole of the foot and the palm of the hand are very thick because they absorb much abuse, wear, and tear.

The skin serves several functions; can you name four?

1. _____
2. _____
3. _____
4. _____

In caring for your own skin as well as your patient's, you must be aware of several significant facts:

One route for eliminating waste products from the body is provided by the sweat (perspiration) glands of the skin (other routes are the urinary tract and the alimentary tract). The accumulation of these products on the skin must be gently washed away to avoid burning (excoriation) of the skin by the chemical reaction of decomposed urine, feces, sweat or drainage, and to rinse away dead skin cells.

Oil is secreted by the sebaceous glands in the skin and helps to prevent dryness. If the skin becomes excessively dry (through the aging process, damage to the sebaceous glands, or excessive washing away of protective skin oils), it may break open (crack) and provide an entry for pathogenic organisms to invade the underlying body tissues and set up an infection or disease process.

Sometimes rubbing alcohol is used to toughen the skin. Alcohol coagulates the protein in the cells of the skin much as heating will coagulate the white of an egg. Alcohol also provides a cooling effect because it rapidly evaporates from the skin. Therefore an alcohol sponge bath is often used to assist in bringing a patient's elevated temperature to normal limits. However, some authorities believe that alcohol causes excessive dryness which can lead to cracks in the skin, with a resulting point of entry for microorganisms and consequent infection or disease. For this reason, some believe it is better to use an oil or lotion to keep the skin well lubricated.

While a patient lies in bed, continuous pressure caused by body weight over bony prominences such as heels and ankles, knees, base of the spine (sacrum), elbows, and shoulder blades (scapulae) deprives these areas of circulation. In other words, the necessary nutrients are not brought to these portions of the body. Prolonged deprived circulation leads to death of tissues because the cells have not had food and fluids on which to grow. When the tissue which covers these bony prominences dies (necrosis), lesions occur that are called decubitus ulcers. You must understand that a decubitus ulcer can appear within just a few hours, unless you are continually aware of the signs of impaired circulation (cold, red or bluish, or mottled skin) and take immediate steps to prevent further breakdown of the skin.

The prevention of bedsores (pressure sore, decubitus) is the responsibility of the nursing staff. When a patient develops a decubitus, it is usually considered a sign of neglect and poor nursing care. It is much easier to prevent a bedsore than to cure one. You must therefore observe your patient's skin frequently and change his position at least every 2 hours to prevent the formation of a decubitus ulcer.

You can prevent pressure sores by:

1. Careful, frequent observation of the color of the skin. (Red, bluish, or mottled skin denotes impaired circulation.)
2. Changing the patient's position at least every 2 hours.
3. Restoring circulation to a deprived area by rubbing a reddened area, using a friction-rotary motion. Always use a rotary (circular) motion, starting at the reddened area and moving outward in an ever-widening circle. This will rush the stagnant venous blood away from the affected area and replace it with fresh arterial blood. The friction produces heat at the skin area by causing the blood vessels to dilate and bring more blood to the area, thereby delivering more nutrients and oxygen to the affected area.
4. Keeping the patient dry and clean at all times. The application of small amounts of fragrant powder helps to keep the skin dry. However, large amounts of powder can accumulate and cause pressure to the skin when the patient lies on the powder accumulation for long periods of time.
5. Avoiding any mechanical or physical injury to the skin from improper fitting of splints, braces, casts, and prostheses, or from burns caused by excessively hot or cold applications of equipment (hot water bottle, ice bags, heating pads, heating lamps, etc.).

Specific treatments for the care of a decubitus ulcer are usually ordered by the physician, although some nursing departments now have developed nursing procedures which they may institute when a decubitus is first discovered. When the decubitus is large and far-advanced, surgical intervention with a possible skin graft may be indicated. Thus it is imperative that nursing personnel work diligently to prevent decubitus ulcers from developing.

ITEM 1: EFFECTS OF INCONTINENCY OF URINE AND FECES

Elderly, paralyzed, or unconscious patients frequently have weakened, injured, or relaxed excretory muscles. Such patients may frequently urinate or have bowel movements without knowing it. Urine and feces on the skin soon become irritating. If left on the skin, they lead to burned areas (excoriation) which later may become open sores (ulcers) or decubiti. It is *mandatory* that these patients be kept dry and clean at all times. This means that you will be checking them frequently for soiled skin and linen.

Remember that one of the early lessons we learn in childhood is to be "toilet-trained." When an adult, for any reason, cannot control his excretory movements, he becomes very sad, demoralized, and embarrassed. His self-esteem is lowered. It is essential that you treat him with kindness and understanding. Assure him that you will help him regain as much control as possible. Never scold this patient. Never put a diaper on these patients; it is degrading and demoralizing to be put in this childlike status. Furthermore, the wet diaper causes skin irritation (commonly called urine-burn) from the acid content of the waste products. This leads very quickly to open sores and resulting decubiti. Remember the dignity and the worth of the individual. Many of these patients fear being dependent on others to take care of their elementary body functions, and they need your reassurance, patience and understanding. You must accept their right to be fearful, sad, or belligerent at finding themselves in this situation.

In the clinical setting, after practice in the skills laboratory, you are to cleanse the soiled skin, change linens, and provide for the comfort of an incontinent patient. You will assist the patient to take care of his excretory functions:

Important Steps

1. Wash your hands. Approach and identify the patient, and enlist his cooperation.
2. Position the bed.
3. Assemble supplies.

Key Points

The patient may be very uncomfortable from lying in a wet or soiled bed. He may also be very embarrassed that he needs your assistance for this very routine activity. He may be angry because he had to wait for you. Meet him with kindness, courtesy, understanding and acceptance.

Place the bed in the working level position to avoid undue backstrain for you. Have patient roll on his side away from you in the Sims' position (obtain assistance if patient can't move for you). Fold top linens back to inspect the situation, to help you determine what supplies you will need. Re-cover the patient.

Obtain clean linens as needed (draw sheet, bottom sheet, gown). If patient is soiled, bring a basin with warm water, mild soap, wash cloth and towel to bedside stand. You may need a bedpan to place soiled toilet tissue in if you have to remove the excess fecal material before beginning the cleansing process. Drape patient for modesty, using top covers. Place bath towel under edge of buttocks to keep the patient dry and clean after washing him.

Important Steps

4. Wash soiled skin.
5. Apply ointment, lotion, or powder to the patient's buttocks.
6. Remove soiled linens.
7. Place clean linen.
8. Put a clean gown on patient.
9. Position patient comfortably.
10. Attach call signal (call button).
11. Report and record.

Key Points

Wash skin gently with warm water and mild soap. Rinse soap off thoroughly. Pat dry carefully with bath towel. Be sure skin is thoroughly dry.

Each agency has routine measures for applying these substances for the prevention of decubitus ulcers. Be sure to inspect the skin carefully for evidence of beginning skin breakdown such as development of an excoriated (burned) area or an open sore (ulcer).

Loosen soiled linens as needed, or remove soiled Chux. If you have to remove soiled foundation linen, proceed to make an occupied bed.

Proceed as in making an occupied bed.

Adjust carefully to avoid wrinkles from gathering under the patient, and to provide for free movement.

Remember, it is important to change the patient's position *at least* every two hours to avoid undue pressure over bony prominences. You should rotate positions systematically, e.g., from right side to back, to left side, to stomach (if permitted). Thus during an 8-hour shift, these positions should be altered at least four times. The position should be changed each time you change linen and clean him up even if it is oftener than every two hours. Adjust top linens so that the patient is warm and not restricted by too tightly drawn linen. Make sure he is positioned in good body alignment. Proceed with bowel training (if indicated) as discussed in the unit on bowel elimination.

Place it within patient's easy reach. Be sure he knows where call button is located and how to operate it. Leave room neat and tidy. Return soiled supplies to designated places. Clean and store bedpan (if used) and wash basin.

Report any unusual skin condition to your team leader. Record in patient's chart the time of change, if backrub was given, or partial bath, application of ointment, etc. Charting example:

11:10 A.M. Incontinent. Back washed and rubbed. Linen changed. Skin color is pink, no broken areas noted. Turned to left Sims' position.
J. Jones, LVN

ITEM 2: EFFECTS ON THE SKIN FROM REMAINING IN ONE POSITION FOR A PROLONGED PERIOD OF TIME

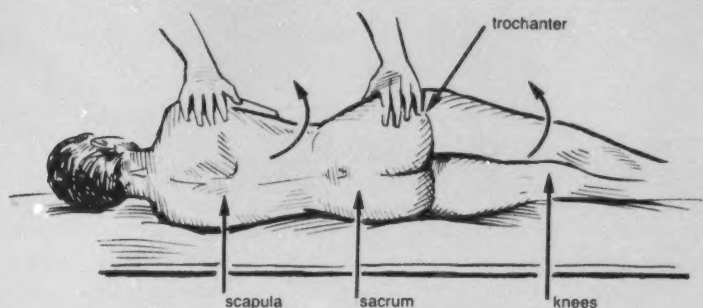
You will recall from your former unit on "positioning the Bed Patient" that changing the patient's position will be one of your most frequent activities. Do you recall what the three purposes of changing the patient's position are?

(1) _____ (2) _____ (3) _____

If you are unable to answer this question correctly, review the introduction to unit "Positioning the Bed Patient."

In this section we are particularly concerned with the effects of pressure on certain bony prominences due to prolonged positioning of the body in the same position (this can be either lying or sitting).

You will recall that every part of the body has weight. This weight, in turn, exerts pressure when it comes in contact with another object, such as the bed. Remaining in one position over a prolonged period of time causes the body weight to exert pressure on the skin, blood vessels, and muscles at the areas where the body is in contact with the bed or chair. The evidences of pressure can easily be observed by closely inspecting the skin over the bony prominences of the scapula, trochanter, knees, elbows, heels, and sacrum.



You will observe that the skin very quickly becomes reddened (often within 30 to 60 minutes). Because the blood vessels are compacted due to the weight of the body against the bed surface, the circulation is usually slowed down and a resulting mottled look appears on the skin. The skin may have a dusky (cyanotic, bluish) color. Continued compression of the blood vessels decreases the supply of oxygen and nutrients to the surrounding tissues, resulting in death of the tissue (necrosis), which leads to the formation of a bedsore (decubitus ulcer or pressure sore).

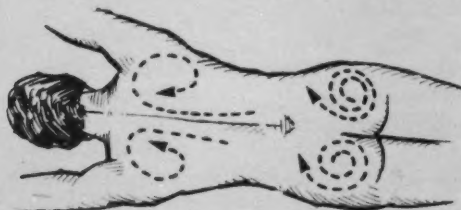
A decubitus ulcer may occur after only a few short hours, particularly in the aged or the poorly nourished patient. The process of curing a decubitus ulcer often takes many weeks and sometimes years of very devoted nursing care. Therefore, it is imperative that you remember the old adage, "an ounce of prevention is worth a pound of cure."

The impaired circulation, with the resulting redness or mottled appearance of the skin, can be further aggravated by heat, soiled or wet bed clothes, irritation of skin from decomposing substances such as perspiration, urine, feces, or vaginal discharges. You will recall from the unit on handwashing that these are environmental factors which also provide breeding places for germs. Wrinkles in the bedding and bed clothes, crumbs and foreign substances in the bed, and friction from restless moving about in the bed, along with any or all of the above can be forerunners to the development of pressure sores.

Given an elderly male patient, severely undernourished and emaciated (extremely thin), who has been lying on his back for three hours, you will change his position to the left Sims' position using good body alignment principles both for yourself and your patient, observing skin condition and taking appropriate steps as indicated.

Important Steps

1. Wash your hands. Approach the patient and identify him. Explain what you are going to do.
2. Adjust the bed to a working height.
3. Move the patient toward you to the right side of the bed.
4. Assist patient to turn on left side.
5. Align the patient in good position.
6. Place the patient in the left Sims' position.
7. Support the body in good alignment.
8. Inspect back for pressure areas.
9. Massage the back and bony prominences.

**Key Points**

Identify your patient by name. Speak to him warmly and reassuringly. Ask him to assist you if possible. Since he is elderly, he may feel he is too tired to be bothered. Explain the need to change his position to prevent his back from developing a sore.

This will prevent you from straining your back muscles as you care for your patient. The bed should be flat. This will prevent undue friction when moving your patient across the bed. Lower the bedrail on the proximal (near) side if indicated. The near side should be the right side of the bed.

Remember your procedure for moving a patient in bed. Move the shoulders and head first, then the hips and legs. (See unit "Positioning the Bed Patient," Items 3 and 14.) Maintain good body alignment. Prevent the patient from falling out of bed by using your body as a shield while standing close to the edge of the bed.

With one hand on his proximal shoulder and the other hand on his proximal hip, roll the patient's body away from you onto his left side. Lower your hands to his left shoulder and hip, and pull both toward you to stabilize the patient on his left side.

Make sure he is not lying on his left arm. Place his head, neck and back in a straight line. Place his legs in a parallel position with knees slightly flexed (bent). The patient's right arm may be flexed across his abdomen or supported on his body at the hip or on a pillow.

Flex the right leg (top) so that it does not rest on the left leg (bottom). The right arm can be flexed on the bed in front of the patient so that his hand is near the pillow, palm down.

Place pillow under the head and neck to prevent muscle strain. Put a pillow under the right leg for support from knee to foot.

Take this opportunity to closely inspect the bony prominences over the scapula, sacrum, elbows, and heels for redness.

This is also an opportune time to stimulate the circulation over the bony prominences. Frequent brief massages or backrubs with lotion or alcohol when changing your patient's position not only improve the circulation but help to relax the patient. Use firm rotary-friction strokes learned in your lesson on backrubs. If you should find evidence of beginning pressure sores, start prompt action. Massage the area briskly to restore nutrients to the area by

Important Steps

10. Leave patient comfortable and in good alignment.



11. Attach signal cord.
12. Offer drink of water or juice.
13. Tell patient when you will return.
14. Report and record as indicated: e.g.,
 3:10 A.M. Position changed to left Sims'.
 Reddened area on right buttock massaged.
 J. Jones, L.V.N.
 3:45 A.M. Sleeping quietly.
 J. Jones, L.V.N.

This can be one of your most important and satisfying procedures. You can be particularly pleased with your performance if you prevent bedsores from beginning, or from advancing after they are discovered.

**ITEM 3: EFFECTS ON THE SKIN FROM PROLONGED IMMOBILIZATION
OR PRESSURE FROM CASTS OR TRACTION**

Patients with broken bones (fractures) are usually in bed for extended periods of time. They are generally immobile (unable to move) because of the weight of a cast on part of the

Key Points

increasing the circulation. Make a special note to change the patient's position every two hours. Remember, you are the one who can prevent pressure sores from developing.

If the patient is relaxed and comfortable, he will probably sleep. Sleep is one of nature's ways of repairing tired and diseased tissue. Sleep helps restore energy and strength. It provides relief from pain and discomfort as well as from anxieties and fears. By changing the patient's position and massaging his back and bony prominences frequently throughout the 24-hour period, you can avoid the use of many drugs. This procedure provides an opportunity for you to get to know your patient better and to use your time to teach some principles of health care, i.e., explain the need to change positions to prevent such complications as bedsores, pneumonia, and circulatory disturbances.

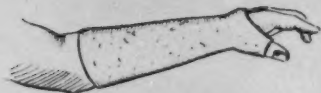
Secure call light within easy reach of the patient. Elevate the head of the bed slightly if the patient prefers. Spread an extra blanket over him if he is cool. Place the bedside stand with his personal items within easy reach. Raise siderail if indicated.

Frequently nursing personnel forget this small consideration.

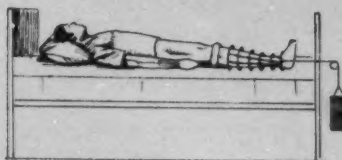
Tell the patient when to expect you (in 15 minutes, 30 minutes, 1 or 2 hours). Then *make sure* you do return to see if he needs anything. In this way, patients will often avoid putting on their call lights for small requests if they know you will be back at a stated time.

Report to team members whether you noted any unusual evidences of beginning or advancing pressure sores. Explain your time schedule for changing his position; they may be able to help you. The time schedule may be entered on the patient's nursing care plan by the charge nurse. This will assist in alerting all who are concerned with the patient around the clock to take special back care precaution.

body, or because they are hooked up in traction (a system of weights and pulleys which exert a pull on broken bones to prevent overlapping of the fracture surfaces of the bone during the healing process).



Short arm cast



Leg traction

Patients with fractures often must be absent from work or from school, or away from home for long periods of time while the bones heal. Children's bones heal quickly, but older patients' bones heal more slowly. The orthopedic patient (with a fracture or disease of the bone) is often sad and depressed because of this prolonged inactivity. It is vital that his general hygienic care be carried out daily — ample nourishing diet, rest, sleep, cleanliness, and frequent massaging of the bony prominences.

You must be very observant whenever you are doing something for these patients, even talking to them. Watch for any signs of complaints of discomfort relating to the cast or traction. *Immediate action* must be taken if the patient's complaints or your observations lead you to suspect impaired circulation in an extremity that is in a cast or in traction. The cardinal signs of impaired circulation are:

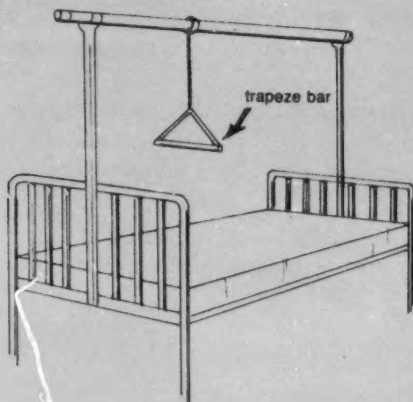
- (a) coldness
- (b) burning or tingling pain
- (c) swelling
- (d) color change to blanching (paleness) or cyanosis
- (e) numbness, or inability to move

When checking an extremity for adequate circulation, you should feel the part to check its temperature, and then ask the patient if he can move or wiggle the part. At the same time you can note whether there is swelling and observe the color of the skin. Even when the patient is asleep, you must check the circulation by observing the temperature, color, swelling, and movement of the part. If you notice any of the signs indicating impaired circulation, you should notify the nurse immediately. Not all of the signs need to be present for you to suspect the possibility of impaired circulation. In some instances, the patient may have only the pain caused by impaired circulation in the localized area due to pressure on a bony prominence.

Remember, impaired circulation for any reason stops nutrients (food) and oxygen from being supplied to the cells in the surrounding tissues. Cells die rapidly without food and oxygen — just as a person does who starves. Death of the tissue (necrosis) from impaired circulation due to prolonged pressure causes an area of dead tissue called a pressure sore. If the necrotic area becomes very large, the condition is called gangrene. Once gangrene develops the tissue usually must be removed surgically. This could mean the amputation of a foot or leg if the circulation is impaired for an extended period of time, with resulting necrosis in a large area.

Although the success of a properly aligned healed fracture depends on maintaining the position prescribed by the doctor, the patient must be moved frequently, and bony prominences and pressure areas around casts, splints, and traction must be massaged often to restore circulation to the tissue.

A trapeze bar hanging from an overhead frame, applied to the bed, helps the patient to change his position.



One type of overhead frame

The patient should be encouraged to change his position frequently to keep his circulation moving and to prevent pneumonia and pressure sores from developing.



Skin traction
using a head halter.



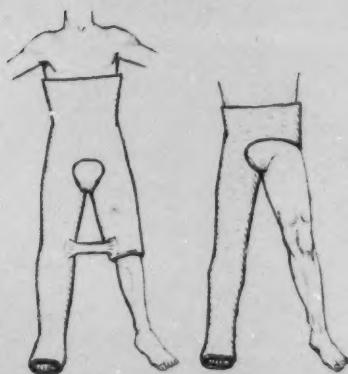
Skeletal traction
using Crutchfield tongs.



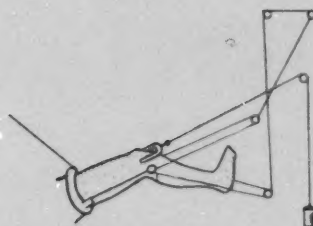
Long leg cast.



Skin traction — arm.



Hip spica.



Leg traction.



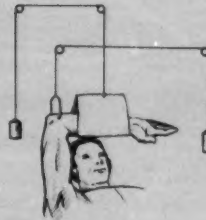
Short leg cast.



Hanging arm cast.



Skeletal traction — arm.



It is mandatory that you check the patient's body alignment each time you see him or pass by his door. Because he has limited freedom to move about, you must be the one to see that the fractured part remains in alignment. If the bone does not heal in a straight line, the patient may recover with a deformity (disfigurement) of the bone. If the deformity is severe enough, it could impair the function of the injured part and require future corrective surgery, thus adding further hospitalization. Your observation and maintenance of correct body alignment are extremely important responsibilities.

In the care of the patient with a cast, it is important to keep the cast dry and to keep the edges of the cast smooth. Bits of plaster cast frequently break off and cause irritation to the skin when the patient lies on them. They can become small pressure areas within the cast if they fall inside. The edges of the cast must be observed several times a day. If they become frayed and ragged, you may protect the edges by re-inforcing them with tape or gauze bandage, or by covering them with waterproof oiled silk or plastic.

Casts frequently cause pressure areas around the bottom edge of long-leg casts, at the top edge of long-leg casts in the groin area, over the hips, or in the groin area for those in body cast. The back of the head is another possible pressure area for the patient in a full body cast that also encloses the neck.

Patients frequently complain about itching under a cast, and are known to use almost any long object to try to scratch the itching area. Unfortunately, the skin can be broken in the attempt — it can become infected and necessitate the removal of the entire cast. Also, some of the scratching implements are lost inside the cast, and this too may require cast removal. The skin under the cast becomes very tender and is easily irritated or broken by the entry of foreign articles. Also, dead skin cells accumulate under the cast, and when the cast is removed, the dead skin should be soaked off with oil or lotion, not pulled off.

Given a patient who is lying in poor alignment, in a perspiration-soaked bed, you are to inspect the right leg, which is in a long-leg cast, for signs of decreased circulation or infection. As you carry out your inspection and reposition the extremity, explain to your instructor what you are checking for, why you are checking, and what measures you are taking to remedy the situation.

Important Steps

1. Approach your patient, explain what you are going to do, and gain his cooperation.

Key Points

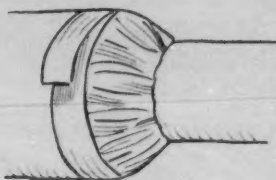
Wash your hands. Check the patient's identification band. Explain the need to keep the body in proper alignment during the healing process and the need for a dry bed to prevent discomfort as well as pressure sores. Also, explain the need to continue to move about and exercise muscles to keep them healthy and working (not shrunken and useless).

Important Steps

2. Adjust the bed to a working height.

3. Check bed linen.

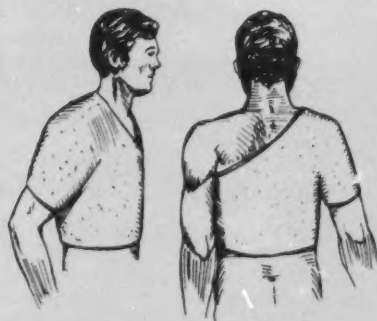
4. Check edges of cast.



5. Check skin around cast edges.



6. Check dryness of cast.



Shoulder spica.

Key Points

Lock the wheels to keep bed from moving away from you during the procedure. Waist-high beds make it easier for you to work without putting strain on your back muscles.

Inspect for dryness and cleanliness. Assemble fresh linen as needed. A dry bed is one way to prevent decubitus ulcers from occurring. If linen is soiled, you will need a basin of warm water, soap, and a bath towel to bathe and dry the skin. Immaculate personal cleanliness is a significant part of the fracture patient's care.

Inspect for rough or frayed areas around edges of cast. Reinforce edges if needed by pulling stockinette (stockinglike material used to cover the skin before applying the sheet-wadding, a soft bandage packing used as a layer of padding between cast and stockinette) up over the edge of cast and making a 1 to 2 inch extension over the outside of the cast. Secure with a piece of adhesive tape. This will prevent crumbles of plaster from falling down inside the cast or from breaking off in the bed and irritating the skin.

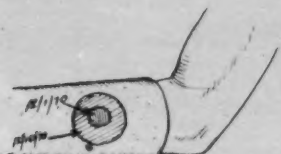
Look for *redness* from constant rubbing of an improperly fitted cast; look also for *swelling* of an extremity. To prevent swelling, the extremity can be supported or raised on a pillow. Check for *cyanosis* of nailbeds, indicating decreased circulation, possibly from an improperly fitting cast which is too tight and is cutting off circulation. Observe for paleness and coldness of the extremity — usually due to a generalized shock condition. Check the skin edges frequently. Keep them clean and dry. Massage under cast edges with your fingers to stimulate circulation.

When a new cast is put on, the plaster of paris takes time to set (there are fast, medium, and slow setting types). When the cast is wet (it is applied by soaking the plaster of paris bandages or splints in water before applying to the body), it is shiny and white. When it dries, the cast becomes dull and gray. During the drying process, leave the cast uncovered so the air can circulate fully to help it dry. It takes approximately 24 hours for a cast to dry thoroughly. During this period, care must be taken not to put fingerprints or dents in the cast; this would cause excessive pressure on the skin in those areas when the cast hardens. It could create an irritation resulting in an infection which would necessitate the removal of the cast. Of course, it would be extremely painful, too.

Important Steps



Body cast.

Short arm cast
with bloody seepage.

7. Check pressure areas.

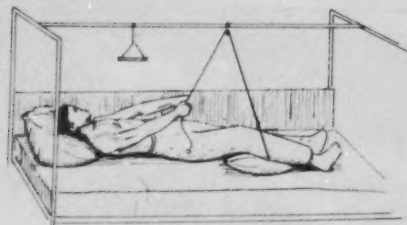
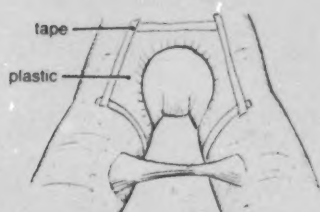


Long leg cast.



Body cast.

8. Have patient assist you in shifting his position.

Bed with overhead frame
and trapeze bar.

Key Points

Because a new cast is wet, elevate or support it with pillows covered with plastic. The cast shrinks slightly while drying; therefore, check the patient's fingers and toes for coldness, cyanosis, numbness, and swelling, *all* critical signs. If the fracture was repaired by a surgical operation (called an open-reduction), there may be some seepage of blood through the cast. Mark the extent of the seepage in pencil around the seepage area on the outside of the cast (put date and time on the circle). If the circle enlarges, report at once to the doctor.

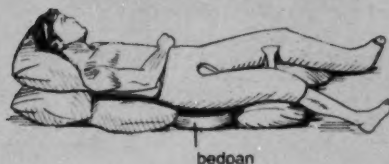
Depending on where the cast has been applied, you will need to observe carefully to prevent pressure areas from developing; i.e., if the patient has a *long-leg cast*, be sure the heel is off the mattress so the heel will not become sore. Also, the cast should be supported so that the anterior (front) of the top of the cast does not cause pressure at the groin. (See sketch of long-leg cast.) You can do this by placing a pillow under the calf of the leg.

If the patient is in a *body cast*, you must make sure that his respirations are not obstructed. You will need additional pillows, which provide support to permit maximum breathing and to minimize pressure on the skin at the edges of the cast. See accompanying sketch for placement of pillows. You do not want pressure sores to develop.

By using various devices attached to the bed (trapeze, ropes and pull-ups), the patient can help you to move him. It is good for him to be involved in this activity because it helps to exercise his muscles. Also, the patient can tell you if he is comfortable while moving and being repositioned. It is especially helpful to have the patient raise his hips when you are placing a bedpan under him. Casts (particularly hip spicas) become soiled easily when the patient has to use the bedpan.

To keep the cast and skin clean and dry, it is a good idea to insert a small piece of plastic around the edges of the cast (secured with tape) to prevent soiling of the cast.

Pillow supports are helpful if properly placed when patient is on a bedpan. (See accompanying sketch.) If the cast becomes soiled with urine or feces, it soon gives off a very offensive odor which is not only embarrassing to the patient but disagreeable to everyone. You will

Important Steps

9. Leave patient comfortable.



10. Chart.

Key Points

need to keep all casts clean and dry. From time to time they may need to be covered with plastic, stockinette, or fresh pieces of plaster of paris bandage. You can sponge the cast with soap and water (after it has become completely dry).

After changing linen, aligning the patient's position, utilizing various supportive aids (pillows, sandbags, and trochanter rolls), and inspecting his skin and cast for trouble spots, position the patient in correct body alignment. Place call button within reach. Offer drink of fresh water. Tell him when you will return.

Record observations and pertinent patient comments. Charting example:

10:45 A.M. Position and linen changed. Skin inspected; no breaks observed, extremity pink and warm.
J. Jones, L.V.N.

ITEM 4: CARE OF SKIN FOR PATIENTS WITH COLOSTOMY AND ILEOSTOMY APPLIANCES (PROSTHESES, BAGS) AND DRESSING FROM ANY DRAINING WOUND

Each time dressings are changed, the skin must be thoroughly cleansed and dried to prevent burning (excoriation) from the digestive juices in various types of drainage, as well as from the decomposition of various body waste products (feces). The dressings are changed PRN (whenever needed). The frequency will depend on the amount of drainage and the physician's order.

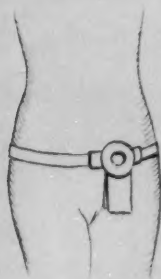
Each agency specifies the kind of ointment to be applied to the skin to prevent excoriation. Some of these ointments are zinc oxide, tannic acid, lanolin, Kaolin, and Vaseline. Check your agency's preference.

Usually, as a beginning nursing practitioner, you will not be changing dressings on draining wounds or appliances on newly operated ileostomy or colostomy cases, but you will be expected to change ileostomy and colostomy appliances once the patient's bowel movements have become somewhat regulated. As is explained in the unit on "Bowel Elimination," a colostomy is an artificial opening through the abdominal wall into the colon through which fecal material is eliminated. An ileostomy is an artificial opening through the abdominal wall into a portion of the ileum through which fecal material is eliminated.

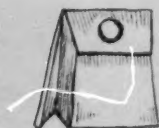
It is very important that your attitude toward these patients is one of patience, concern, and support while he learns to accept and care for the stoma himself. In the practice laboratory, you will change a colostomy (or ileostomy) prosthesis on the mannequin, paying particular attention to the care you give to the patient's skin around the stoma. As you proceed with the task, explain to your instructor what you are doing, as well as why you are taking specific precautions. After successful practice in the skills laboratory, you will be assigned to care for an ileostomy or a colostomy patient. When changing the appliance, you will demonstrate tact, concern, support and correct technique.

Important Steps

1. Assemble the equipment.
2. Tell the patient what you are going to do.
3. Place the patient in a supine position.
4. Remove the filled bag.



Permanent ostomy bag.



Disposable ostomy bag.

Key Points

Usually the patient will have a colostomy (ileostomy) dressing tray at the bedside. It is replenished daily or PRN. It will include the materials needed to cleanse the skin and stoma.

There are many styles, sizes and types of stoma bags; all of those now used are disposable. They are attached to a belt either with or without adhesive tape. *Note:* Some colostomy patients who are well regulated may not wear a stoma bag.

Explain the clean dressing procedure to him. Be sure to check with your team leader as to the exact method for this patient. (There are minor variations in the process of applying the dressing depending on the needs of the patient. However, the general principles remain the same.) You must perform this task with skill and assurance. These patients are often embarrassed, depressed, and very anxious. All nursing personnel caring for them must be particularly understanding and skillful.

Expose only the working area by draping bedding around it. Keep the patient warm and well-screened for privacy. Wash your hands. Check patient's identification band.

Today's disposable ileostomy and colostomy bags are convenient for you and for the patient. (Most patients are taught how to change their own appliances when they are psychologically ready.)

The *permanent bag* is usually installed after stoma is completely healed and shrinkage of stoma is complete. The bag is attached to the skin or the belt with or without adhesive tape. Some bags are opened from the bottom for drainage of fecal matter, others must be removed completely from the belt for emptying. The bag is then irrigated with warm soapy water which is introduced by means of an irrigating syringe. Hold end of bag shut and swish solution around inside bag for thorough cleansing. Drain and instill clear water for rinsing. Drain off water and close bottom of bag.

The *temporary bag (or post-operative appliance)* may be put on the ileostomy patient before he leaves the operating room. The advantages of doing this are:

- (1) Morale is greatly improved because odor is eliminated immediately and disagreeable handling of soiled dressings is avoided.
- (2) The serious complications of abdominal excoriation by feces are reduced to a minimum.

Important Steps

5. Cleanse area around stoma.
6. Apply special powder or ointment around stoma.
7. Apply cement, if used, around stoma and to the ring (disc) of the bag.
8. Apply second coat of cement.
9. Place disc on the skin area covering the stoma.
10. Adjust hold straps.
11. Leave patient tidy and at ease.
12. Record on patient's chart.

Key Points

- (3) The recent introduction of the use of Karaya powder has simplified the post-operative care of the ostomy patient.

Follow same procedure for removing the temporary bag as outlined in the following items.

Wash gently and thoroughly with soap and water. Pat thoroughly dry.

Karaya gum powder or your agency ointment is applied around the stoma as a protective coating to the skin to prevent burning from the decomposing fecal material. The Karaya powder promotes healing and decreases itching. Excoriation is very painful and unsightly, and is a likely place for an infection to begin. *Meticulous care* of the skin is mandatory.

The cement will be put on with an applicator, following directions on the appliance package (the cement is kept on the dressing tray). Cover an area at least 1 inch larger than the appliance will cover; the cement makes the appliance (ring) adhere tightly to the skin. The skin area and the bag must each dry completely (allow about 30 to 60 seconds.)

Again cover both the skin and bag.

Press firmly to the cemented area on the skin. Hold until the two are tightly stuck together.

Make the patient comfortable and see that the bag is held securely in place.

Remove soiled items. Tidy the room. Fluff the patient's pillow and straighten the bedding. Leave call button within reach of patient. Offer a fresh drink of water. Ask if there is anything else he needs. Tell him when you will return. Wash your hands.

Record observations: time, amount, color, consistency and odor of contents of bag. Report any unusual conditions to your team leader, in addition to the charting:

2:10 P.M. Colostomy appliance changed. Feces are soft, brown, moderately formed. Moderate amount in bag. Patient is pleased with progress. Skin is in good condition. J. Jones, L.V.N.

ITEM 5: CARE OF THE SKIN APPENDAGES (FINGERNAILS AND TOENAILS)

Care of fingernails and toenails is one part of the personal care that most patients can do for themselves. However, if the patient cannot (because he is unconscious, blind, confused, in a cast or traction, or is unsteady), you may need to do it for him.

Usually nail care is accomplished at the time of the regular bath. The nails should be

kept clean and trimmed. You may trim them according to your agency regulations. In some instances you will do the actual cleaning and cutting; in other agencies a foot doctor (podiatrist) will be called to give this care to the patient. Do not cut toenails or fingernails of a diabetic patient or one who has circulatory disease of the lower extremities until you have checked your agency's regulations. Since nails frequently can become tough and thick, soak the hands and feet for 15 minutes in warm soapy water before attempting to cut the nails. The soaking will soften the nail and the cuticle (outer portion of the skin surrounding the nail) sufficiently so that you can easily cut or file the nails and gently push back the cuticle with an orange stick.

Nails are cut straight across to prevent them from growing into the skin along the sides which causes pain or infection, and a condition called ingrown nails. Ingrown toenails may require a surgical procedure to correct. Manicured cuticles prevent hangnails (a partly detached piece of skin at base of fingernail), which are painful, unsightly, and the site of possible infections.

If it is necessary for you to observe the color of a patient's nailbeds, e.g., after surgery or cast application, it may be necessary to avoid use of colored nail polish. Carefully groomed toenails and fingernails are an essential part of good grooming for your patient as well as for yourself.

VI. ENRICHMENT

Fractures can be set (reduced) by one of two methods:

1. *Closed reduction* — manipulation to properly align a broken bone. It is called the bloodless method. It is also commonly used for simple arm or leg fractures. The doctor can feel the bones and exert pressure with his hands to get the bones back in correct position. The bones are then kept in correct position by applying a cast, traction, or a splint.
2. *Open reduction* — a surgical operation to align the bones correctly. It is usually done on a compound fracture. Using this method, the surgeon can see the fracture and determine just how well he is able to align the bones. Following the operation, the patient is usually placed in some type of cast to maintain the alignment of the bones.

WORKBOOK ANSWER SHEET**Section V Page 224**

1. Protects the body from injury
2. Protects the body from invasion of organisms
3. Helps regulate body fluids and temperature
4. Acts as a sensory organ (temperature, tactile)

Item 2 Page 228

1. Patient's comfort
2. Relief from pressure
3. Prevention of contractures

POST-TEST

Matching. Select the phrase from Column 2 which best describes the words in Column 1. Write the letter designating that phrase in the blank space in Column 1.

Column 1

- ___ 1. necrosis
- ___ 2. dermis
- ___ 3. decubitus
- ___ 4. abrasion
- ___ 5. cyanotic
- ___ 6. sebaceous gland
- ___ 7. incontinence
- ___ 8. excoriation
- ___ 9. fracture, simple
- ___ 10. fracture, compound

Column 2

- A. damage to skin from chemicals
- B. excretion of perspiration
- C. a broken bone without a skin wound
- D. inability to control feces and urine
- E. circulation of blood in arteries and veins
- F. a broken bone with a skin wound
- G. the second, or true layer of skin
- H. excretion of an oily substance
- I. damage to the skin by scraping
- J. death of tissues
- K. skin color change caused by insufficient oxygen
- L. damage to skin due to pressure
- M. the first, or outer layer of skin

Multiple Choice. Select the best answer for each of the following questions and place a check in front of your answer.

1. When you give a bath or special skin care to a patient, the layer or structure of the skin that you touch is
 - (a) ___ muscle
 - (b) ___ epidermis
 - (c) ___ dermis
 - (d) ___ follicles
2. The nerve endings and the blood vessels of the skin are located in which layer or structure?
 - (a) ___ muscle
 - (b) ___ epidermis
 - (c) ___ dermis
 - (d) ___ follicles
3. When the continuous surface of the skin has been damaged or broken as in an abrasion or decubitus ulcer, the body has lost some of its ability to
 - (a) ___ resist infections
 - (b) ___ take in oxygen supply
 - (c) ___ eliminate waste products
 - (d) ___ maintain body alignment

4. A possible disadvantage to the use of alcohol when giving a back rub is that
- (a) ___ it evaporates and cools the body
 - (b) ___ it removes oils and waste products from the skin
 - (c) ___ it toughens and dries out the skin
 - (d) ___ it coagulates oxygen in the tissues
5. In some patients, pressure can cause the beginning of a decubitus within a matter of hours. When you observe the *first* sign of pressure, you should immediately do which of the following?
- (a) ___ make sure that the skin is clean and dry
 - (b) ___ turn the patient at least every two hours
 - (c) ___ use padding or protective aids to reduce pressure
 - (d) ___ massage the reddened skin area to restore circulation
6. In caring for the patient who is incontinent, you should keep his skin clean and dry, and
- (a) ___ use padding or disposable diapers to catch the urine or feces
 - (b) ___ offer the bedpan or urinal frequently for retraining
 - (c) ___ check the bed linens frequently to see if they are soiled
 - (d) ___ remind the patient that he made extra work for you by soiling the bed
7. For the bed patient, pressure over a bony prominence such as the sacrum can result in
- (a) ___ necrosis of tissues and formation of a sore or ulcer
 - (b) ___ reddening of the skin due to impaired circulation
 - (c) ___ decreased supply of nutrients and oxygen to the tissues
 - (d) ___ answers a, b, and c
 - (e) ___ answers a and b
8. A patient has had a cast applied for a fracture of his leg and now complains of pain in the ankle area. His toes are warm to touch, of normal skin color, and he can move them. Would you conclude that
- (a) ___ the patient is a complainer
 - (b) ___ the pain is normal because of the fracture
 - (c) ___ the cast may be causing pressure
 - (d) ___ the signs do not indicate impaired circulation
9. All but one of the answers below describe procedure required in caring for a patient with a cast applied after a closed reduction of a simple fracture. The procedure that does not apply is
- (a) ___ circle and observe area of bloody seepage on cast for enlargement
 - (b) ___ cover any rough edges with stockinette or tape to prevent crumbling
 - (c) ___ check skin area for signs of pressure and impaired circulation
 - (d) ___ keep cast dry, clean, and well supported

10. A sharp object should not be used by the patient to scratch the itching areas under his cast because
- (a) — he may poke holes in the cast or damage it
 - (b) — infection may occur if the skin is broken
 - (c) — the itching is just caused by accumulated dead skin
 - (d) — he would not be able to feel it if he injured himself
11. Excoriation often occurs in the skin around the stoma of an ileostomy or a colostomy as a result of
- (a) — the stool or feces soiling the skin
 - (b) — frequent passage of drainage or stool from the stoma
 - (c) — liquid or semiliquid stool instead of formed stool
 - (d) — action of digestive juices in the drainage or feces
12. The ointment used around the stoma of a colostomy provides for
- (a) — cementing the colostomy bag in place
 - (b) — lubricating the stoma for passage of the feces
 - (c) — a protective covering of the skin
 - (d) — easier cleansing of the skin
13. Before trimming the nails of a patient who has diabetes or circulatory disease of the legs, you should
- (a) — check with your team leader for instructions
 - (b) — soak the patient's hands or feet in warm soapy water
 - (c) — plan to do this task as part of the bath procedure
 - (d) — check for hangnails around the cuticles

POST- TEST ANNOTATED ANSWER SHEET**Matching**

1. J (p. 224)
2. G (p. 223)
3. L (p. 223)
4. I (p. 223)
5. K (p. 223)
6. H (p. 224)
7. D (p. 224)
8. A (p. 224)
9. C (p. 224)
10. F (p. 223)

Multiple Choice

1. b (p. 224)
2. c (p. 224)
3. a (p. 225)
4. c (p. 225)
5. d (p. 225)
6. b (p. 226)
7. d (p. 228)
8. c (p. 231)
9. a (p. 234)
10. b (p. 233)
11. d (p. 236)
12. c (p. 236)
13. a (p. 239)

PERFORMANCE TEST

In the skills laboratory you will give correct skin care to one of the following:

1. A patient with an ileostomy or colostomy.
2. An elderly female who has been lying on her back for 6 hours.
3. A patient with a full body cast who has been lying on his right side for two hours.
4. An unconscious diabetic male, 50 years of age, who has hangnails on three of the fingers on his left hand.

While you are giving the care, you will explain to your instructor what and why you are doing each step.

Upon completion of the Performance Test, you will leave the patient comfortable, in a tidy room, and will practice charting your activity (on a sample nurse's notes).

PERFORMANCE CHECKLIST

SPECIAL SKIN CARE

CHANGE POSITION OF PATIENT IN BODY CAST TO SUPINE POSITION

1. Wash hands.
2. Approach patient, identify patient.
3. Explain procedure.
4. Adjust bed to working height. Check bed linen to ascertain needs.
5. Check skin around cast edges for color, swelling, pain, cyanosis, temperature.
6. Massage under cast edges. Check cast for dryness, check pressure areas, check breathing.
7. Remove supporting pillows and sandbags.
8. Ask patient to assist in moving to center of bed.
9. Hold patient's top shoulder and top hip; gently roll patient to supine position.
10. Ask patient if he is comfortable. Add pillows, etc., to support him in correct alignment, and in a comfortable position.
11. Tighten linen (remove wrinkles), fluff pillows.
12. Leave patient comfortable, with call signal nearby, bedside stand in reach; offer liquids, raise siderails if indicated.
13. Tell patient when you will return.
14. Chart actions and observations on nurse's notes.

ASSIST ELDERLY PATIENT IN SUPINE POSITION

1. Wash hands.
2. A. Approach patient.
B. Identify patient.
C. Explain procedure.
3. Adjust bed to working height; bed flat, proximal siderail down.
4. Move patient to proximal side of bed (shoulders and head first, then hips and legs). Maintain good body alignment for self (feet apart, knees slightly flexed, back straight).
5. Assist patient to turn onto side away from you (one hand on proximal shoulder, one on proximal hip).
6. Lower hands to bottom shoulder and hips, pull patient gently toward you in order to stabilize patient's position.
7. Align patient in good position: not lying on bottom arm; head, neck and back straight. Legs parallel, slightly flexed at knee; patient's top arm bent across abdomen or supported on hip with pillow.
8. Flex patient's top leg (do not let it rest on his bottom leg). Support patient's leg with pillow (knee to foot).
9. Flex top arm in front of patient on bed, palm down.
10. Place pillow under head and neck.
11. Inspect pressure areas (bony prominences).
12. Massage back.
13. Leave patient neat, tidy, relaxed; attach signal light, raise siderails; and offer liquids.
14. Tell patient when to expect you to return.
15. Chart action on nurse's notes.

UNCONSCIOUS PATIENT (DIABETIC) WITH HANGNAILS ON LEFT HAND

1. Complete bed bath; inspect fingernails for needed care.
2. Detect hangnails on left hand.
3. Do not trim the nails or hangnails because patient is diabetic. Explain why nails are not cut on the diabetic patient without specific order from the RN or doctor.
4. Report promptly to charge nurse and await further instructions (allowed to cut nails and apply an antibiotic ointment, or requested to wait until the doctor arrives for the care).
5. Complete bath; leave patient clean, neat, and comfortable.
6. Remove used items; dispose of them or clean and return them to proper place.
7. Place call signal and bedside stand within easy reach of patient.
8. Raise siderails if indicated.
9. Chart observations on nurse's notes.

SKIN CARE FOR ILEOSTOMY OR COLOSTOMY PATIENTS

1. Assemble supplies.
2. A. Explain procedure
 - B. Identify patient.
 - C. Wash hands.
 - D. Apply cement solvent.
3. Permanent Bag:
 - A. Open bag at bottom, drain out fecal matter without spilling.
 - B. Rinse bag with warm water without getting patient or bedding wet.
 - C. When thoroughly rinsed, close bottom of bag securely.
4. Temporary Bag:
 - A. Apply cement solvent around edge of bag.
 - B. Remove bag without tearing skin or spilling contents.
 - C. Discard bag in waste container.
 - D. Wash area around stoma with soap and water.
 - E. Pat area dry.
 - F. Apply ointment around stoma using a tongue blade.
 - G. Apply cement around stoma.
 - H. Apply cement around the ring of the bag.
 - I. Allow cement to dry 30 to 60 seconds.
 - J. Apply second coat of cement.
 - K. Place disc on skin over stoma. Press firmly until securely held.
 - L. Sprinkle talcum powder around stoma area to prevent linens from sticking to cement area.
 - M. Adjust holding straps for bag to suit patient's comfort.
 - N. Leave patient neat and comfortable.
 - O. Record procedure correctly on chart (i.e., time, color, amount, consistency, odor).
5. Explain each step during the entire procedure.

Unit 14

PATIENT MOVEMENT AND AMBULATION

I. DIRECTIONS TO THE STUDENT

You will proceed through the lesson using this workbook as your guide. You must practice the procedures related to patient movements and ambulation in the skill laboratory with a student partner or other person. After the completion of the lesson and your practice of the procedures, you should arrange with your instructor to take the post-test for this lesson.

You will need the following items for your study and practice:

1. This workbook
2. A pen or pencil
3. An 8 mm projector and screen
4. A 33 rpm record player
5. Film: "Range of Motion," (BN-3 series, Trainex Corporation, Garden Grove, California 94642)
6. A robe
7. Slippers or shoes
8. The post-test

Please read the following paragraphs carefully. They will tell you exactly what you will be expected to know and how you will be expected to assist the patient in his movements and ambulation. If you feel that you have the necessary skills and would be wasting your time studying this material, discuss this with your instructor. You may then arrange to take the performance test consisting of a written test and demonstrations.

II. GENERAL PERFORMANCE OBJECTIVE

Upon completing this lesson, you will demonstrate your ability to assist the patient (or another person) to move his various joints through the range-of-motion exercises, to dangle his feet at the side of the bed, to stand, and to walk in a safe manner without causing additional pain or injury.

III. SPECIFIC PERFORMANCE OBJECTIVES

When this lesson is completed, you will be able to:

1. Assess the patient's physical and mental condition that may interfere with his ability to exercise his joints or to ambulate; your own ability or limitations to carry out the procedures. *Note:* When needed, you will secure additional help.

2. Verbally communicate patience, gentleness, and concern for the patient, and express them nonverbally through your behavior and actions.
3. Explain to the patient (one with limited or no motion in the joints on one side of his body) the need for exercising all of the joints; show him how to exercise the joints on his unaffected side, and carry out the range-of-motion exercises for the affected joints. In performing the range-of-motion exercises, you will:
 - a. Provide support for the body part that is away from the joint being exercised.
 - b. Avoid forcing movement in the joint to the point that it causes pain.
4. Assist the patient in bed to dangle his feet over the side of the bed by positioning him on the proximal side of the bed, bringing him to a sitting position, pivoting his body, and swinging his feet over the side of the bed in smooth, flowing motions, using principles of good body alignment and movement.
5. Assist the patient to stand, to balance, and to walk safely, using principles of good body alignment, balance, and movement.
6. Assist the patient (whether a youth or an adult) who has lost his balance and begun to fall by grasping him firmly, slowing the rate of descent, and easing him slowly to the floor or ground in order to avoid injury to the patient or to yourself, by utilizing the principles related to gravity.

IV. VOCABULARY

Some words used in this lesson which may be unfamiliar to you are listed below. You will need to remember the meaning of these words for this and subsequent lessons.

- active exercise — movement performed by the person himself without assistance from another.
- axilla — armpit (plural, axillae).
- body chemistry — the balance or imbalance of the chemicals (atoms or molecules) in the composition of body tissues.
- circularduction — the circular motion of a limb or body part in which the limb forms the side of a cone, and the joint nearest the body forms the apex or tip of the cone.
- deformities — the misshapen, disfigured, or abnormally formed parts of the body.
- infiltration — seepage of fluid into the skin tissue causing blanching (turning pale) and swelling.
- pace — the distance covered in one step, or the number of steps per minute.
- passive exercise — the moving of parts of a person's body by another person.
- pelvis — the ilium, ischium, sacrum, and pubic bones which form the basin-like cavity of the lower trunk of the body.
- physiological changes — changes in body function due to disease or injury.
- pneumonia, hypostatic — an inflammation of the lungs caused by lack of movement, remaining in the same position, a common complication of being in bed for a long period; can occur rapidly following surgical operation.
- pronation — the rotation of the palm of the hand so it is facing downward (thumbs pointed medially).
- rehabilitation — the process of restoring to a good condition, or an improvement in the state of efficiency or health.
- rotation — the process of turning, or movement about an axis.
- sacrum — the triangular bone in the lower back formed by the five sacral vertebrae.
- spasm — an involuntary, sudden movement or muscle contraction.
- spinal vertebra (plural is vertebrae) — the name for each of the 33 bones forming the spinal backbone in man.

supination — the rotation of the palm of the hand so it is facing upward toward the head (thumbs pointed laterally).

thrombus (plural is thrombi) — a blood clot that obstructs a blood vessel.

unconscious — the state of being insensible or without conscious experiences; in deep stupor; unresponsive.

Note: ilium — is a bone of the pelvis.

ileum — is the lower third of the small intestine.

A. If you have completed the lessons which were prerequisites for this one, you have already learned other important terms used here. As a review of these terms, please match the word and its meaning from the lists below.

- | | |
|---------------|-------------------------------------|
| — proximal | 1. toward the midline |
| — abduction | 2. a sudden circulatory accident |
| — extension | 3. on the near side |
| — contracture | 4. to bend |
| — flexion | 5. a sudden strong contraction |
| — stroke | 6. on the far side |
| — distal | 7. permanent shortening of a muscle |
| — adduction | 8. away from the midline |
| | 9. to straighten |

ITEM 1. IMPORTANCE OF MOVEMENT

Can you imagine what it would be like not to be able to move at all? Without movement, you would be a prisoner in your own body. How would you feel if you were unable to scratch your nose when it itched? Or unable to blink your eyelid when a speck of dirt irritated your eye? Or to walk, play, or participate in the many activities that make up your everyday life?

Movement is so important to the human being that much of the time and effort during infancy and early childhood is devoted to learning and coordinating body movements. This task takes years to master. The infant must learn to focus his eyes, follow an object with his eyes, hold up his head, balance his body, and coordinate his hand and eye movements before he can learn the more complex movements involved in sitting, walking, grasping a cup, catching a ball, or dressing himself. As the child grows, he learns to perform progressively more complex movements.



The health and well-being of a person is related to his ability to move his body and its various parts. Movement promotes more efficient functioning of *all* body parts. For example, movement enhances the firmness, tone, and elasticity of the muscles, and promotes the elimination of waste products from the body. It is essential for the strength and hardness of the bones, helps maintain the blood pressure and efficient blood circulation, stimulates the appetite, and reduces fatigue through good posture and change of position.

In injury or illness, the patient's ability to move part or all of his body may be impaired. In such situations the patient must have exercise that results from movement in order to regain his health. When he is unable to move by himself to get the exercise he needs, the nurse must move and exercise his body parts. It is only in recent years that much emphasis has been placed on range-of-motion exercises as a basic nursing skill. You will meet experienced nurses who know the importance of exercise for patients with limited movement, but who may not know the range-of-motion exercises.

B. You should be able to list at least four ways in which exercise promotes the functioning of the body.

- (1) _____ (2) _____
(3) _____ (4) _____

C. _____ is essential to the well-being and health of the patient.

ITEM 2: HOW DOES THE BODY MOVE?

The muscular and skeletal systems of the body provide support for the body structures, the means for movement and locomotion, and protection for the soft tissues of the body. The skeletal system is composed of a framework of bones. All movement of the body occurs through the action of the muscles on the skeletal bones. Muscles are attached to the bone by connective tissue, and usually work in pairs.

The movement of bones by the muscles occurs at the joints. A *joint* is a junction between (or an articulation of) two or more bones. Joints are classified according to the amount of movement they permit. A *fixed or immovable* joint allows no movement of the bones, e.g., the bones of the skull. A *slightly movable* joint allows slight movement; examples are the spinal vertebrae and the joints of the pelvis and sacrum. *Freely movable* joints are the most common and can be found in the extremities and the lower jaw.

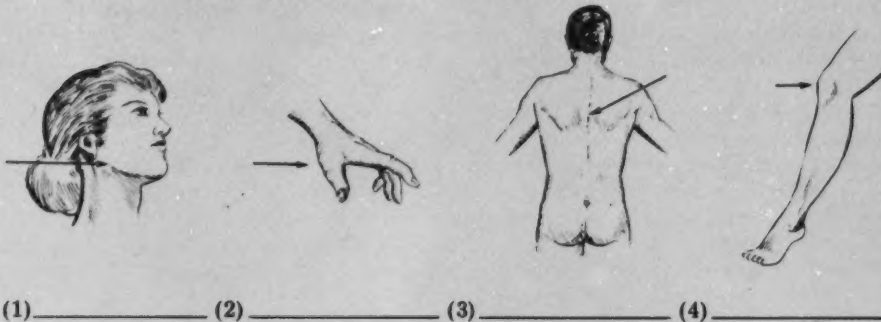
Joints allow movements which are classified as flexion, extension, abduction, adduction, circumduction, and rotation. *Flexion* bends the part by decreasing the angle between the parts. *Extension* straightens the part by increasing the angle. In *abduction*, the body part moves away from the midline of the body, and in *adduction* the part moves toward the midline so the distance from the midline is decreased. *Circumduction* occurs when a part is moved as the side of a cone in a circular manner, such as swinging your arm in a circle. The circular or turning motion is called *rotation* and occurs when you turn your head from side to side. When the palm of the hand or the sole of the foot is rotated to an upward position, it is called *supination*. When the palm or the sole is in a downward position or toward the back of the body, it is called *pronation*. (Supination of the foot may be referred to as dorsiflexion; pronation of the foot may be referred to as plantar flexion.)

The amount of movement allowed at the joint is termed its range of motion. Forced movement beyond this range of motion will cause pain.

D. Movement is the result of action by _____.

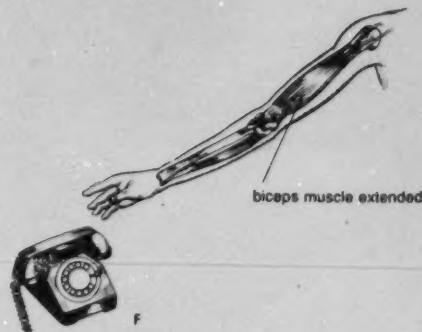
E. Movement occurs at the _____ of the body.

F. Please indicate in the adjoining sketches the type of movement allowed in the parts of the body as either fixed, slightly movable, or freely movable.

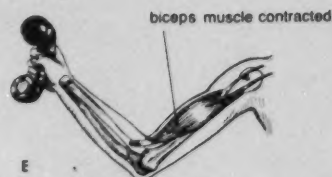


ITEM 3: HOW DO CONTRACTURES DEVELOP?

As stated before, muscles usually work in pairs. In the extremities (arms and legs), the flexor muscles are strong muscles that contract, or shorten, to move the part. The opposing muscle of the pair is the *extensor*, which is lengthened when the flexor muscle contracts, and which will straighten the part when it contracts.



The prolonged flexion of muscles may result in common deformities which are painful and unattractive, and which limit the movement of the person. These deformities are called *contractures*. A permanent contracture of the muscles "freezes" (or locks) the joint so that the part cannot be extended, as a result of the inability of the extensor muscle to overcome the strength of its flexor "brother."



Contractures can occur in less than three weeks time, and are most commonly seen in the shoulder, wrist, hand, hip, and knee, and as foot-drop. Contractures are very difficult to improve to the degree of providing a portion of the joint's function, and they often require surgery and years of expensive therapy (treatment).

- G. The powerful muscles that contract and bend a part are called _____.
- H. Contractures are caused by the muscular action of _____.
- I. Permanent "freezing" of a joint has been known to occur in _____ time.

ITEM 4: PASSIVE AND ACTIVE EXERCISE

During illness, the patient needs a certain amount of exercise. When the patient is unable to move a part of his body himself, it becomes the responsibility of the nurse worker to move that part, unless there are medical orders not to do so. The movement performed by the nurse worker or therapist with no help from the patient is called *passive exercise*. The patient should be encouraged to perform the movement himself when at all possible; this is called *active exercise*.

Passive and active exercise should begin as soon as possible after onset of the patient's illness. Within a day or so of the time he becomes unable to move or exercise his joints himself, you should begin a program of passive exercises. As the patient improves, he should be involved in planning his own exercise program and shown how to exercise his joints himself. The best time for the patient to exercise his joints through the *range of motion* is at bath time. Range-of-motion exercise should be done at least once daily, and some joints may need to be exercised every hour or so in order to keep them flexible.

The patient who had had IV's (intravenous injections) running in his arm for more than four to six hours will often have discomfort and soreness in his shoulder from keeping his arm still. Range-of-motion exercise for the shoulder often relieves this discomfort, but must be performed with extreme care if the IV is still running. *Note:* If the IV becomes dislodged, call your team leader immediately.

You must take care to see that the tubing is long enough to permit movement, that the needle is not dislodged from the vein, and that the fluid does not infiltrate (seep into) the tissues. The movement must be slow and smooth, and the arm must be supported. The movements of lateral and upward abduction and adduction are the most beneficial, followed with light massage to stimulate the circulation to the shoulder.

- J. A patient who is unconscious has been admitted to the hospital following a head injury in an accident. He is still unconscious the next day when you arrive to give him morning care and a bath. His vital signs have stabilized. What joints should be exercised?
_____ When should the exercises be started? _____
- K. When the patient needs the assistance of the nurse to exercise the joint, it is called _____ exercise. When he is able to do it himself, it is called _____ exercise.

ITEM 5: ROLE OF THE REHABILITATION TEAM

The patient with limited movement in one or more of his joints may have many emotional needs related to his inability to move. He may be concerned about his dependence on others for the help he needs; he may also be depressed about the nature of his disability, which could require a long convalescence, and he may have feelings of uncertainty or fears of being unable to resume his normal activities. You will need to show patience and understanding for this person by accepting his right to feel as he does, but you must emphasize what can be done and encourage his cooperation in exercising, moving about, and using the abilities he still has.

Often the patient will receive care and services toward his rehabilitation from other persons, such as a physical therapist, occupational therapist, speech pathologist, his family, and, of course, his physician. The goal of all these persons is improvement in the patient's condition. You should learn as much as possible about the therapy (treatment) and goals (short and long term) planned for your patient so that you can coordinate your care of him with that given by other members of the rehabilitation team.

As a nurse worker, you are a very important member of the team because you will be with the patient for long periods of time during his illness in order to give him care.

- L. One of your patients is a man aged 49 who had a stroke several days ago. He is now conscious, but has slurred speech and is paralyzed on his left side. He had done plumbing work and two of his five children are still in school. Now he seems irritable and upset. What might be some of the reasons for his feelings?
-

- M. Some of the persons who would be involved in the rehabilitation of the patient described above are:

(1) _____ (2) _____ (3) _____
 (4) _____ (5) _____ (6) _____

ITEM 6: INSTRUCTIONS FOR VIEWING FILM

You are now ready to view the film which shows how to put the various joints of the body through the range-of-motion exercises. You will note that several types of movements occur at a joint. For instance, the muscles acting on the shoulder joint allow for all types of movements — *abduction, adduction, flexion, extension, hyperextension, circumduction, and rotation*. The *range-of-motion exercises* for this joint include all of these movements.

Turn on the projector and the sound system. Watch the film and listen to the narrative description. When the film is ended, turn off the projector and the audio.

- N. Did you notice how the nurse supported the patient's arm while exercising the shoulder? How she supported the forearm when she put the shoulder and the elbow through the range-of-motion? The lower leg, when ranging the ankle and foot? _____ If your answer is no, turn on the projector and run the film again.
- O. The thumb joint is a very important joint in man. According to the film, what important movements occur in this joint?
-
-

ITEM 7: RANGE-OF-MOTION EXERCISES FOR THE STUDENT (ACTIVE)

It is now time to see how well you understand how to do the range-of-motion exercises. Assume a standing position and carry out these movements. You will be performing active exercise.

1. *Abduction and adduction* of the shoulder. Raise your arm forward, up over your head, and return it to your side. Which move was abduction? _____
2. *Flexion and extension* of the elbow. Bend your elbow, touch your shoulder with your finger tips, and straighten your arm. Which move was bending the elbow? _____ Which move was straightening the arm? _____
3. *Rotation* of the shoulder. External (outward) rotation — flex your elbow, bring the elbow up to the level of the shoulder, and reach the back of your neck with the fingers. Internal (inward) rotation — flex your elbow, draw your arm across the chest, and place your hand on the distal shoulder.

P. Which of these movements would you use to do the following?

- a. Brush your teeth? _____
- b. Wash the back of your neck and shoulders? _____
- c. Comb your hair? _____
4. *Flexion and extension of the spine:* Reach down, try to touch your toes without flexing your knees, and then straighten up. Can you feel the muscles working in your back? _____ Put your hand against the small of the back as you bend over, and straighten up. You will be able to feel the muscles move.
5. *Abduction and adduction of the thumb and fingers:* Spread your fingers and thumb far apart like a fan (abduction), then bring them together again (adduction).
6. *Flexion and extension of the thumb and fingers:* Flex your hand at the knuckles, keeping the fingers straight; then bend the fingers and thumb to make a fist, and straighten them again.
7. *Rotation of the neck:* Turn your head to the left side, then to the right side.

Lie down in a supine position (flat on your back) and practice these movements of the lower extremities.

1. *Abduction and adduction of the hip:* With your legs straight and toes pointed upward, move the leg to one side as far as possible (abduction), and return it to the original position (adduction).
2. *Flexion and extension of hip and knee:* Bend your knee (flexion) and bring it up toward your chest as far as possible, and then straighten the leg to the original position (extension).
3. *Rotation of the hip:* To rotate *externally*, or outward, flex the hip and knee so that the knee is parallel to the bed, and turn the foot outward. To rotate *internally*, flex the hip and knee so that the knee is elevated and parallel to the bed, and turn your foot inward.
4. *Flexion and extension of ankles:* Bend toes upward as far as possible so that the foot is *supinated* (dorsiflexion), then extend the toes downward as far as possible so that the foot is *pronated* (plantar flexion).

ITEM 8: RANGE-OF-MOTION EXERCISES FOR PATIENT (PASSIVE)

In the skill laboratory with another student or other person playing the part of a patient who is paralyzed on his left side, you will provide passive range-of-motion to the joints of his neck, left shoulder, arm, hand, hip, knee, ankle, and foot while supporting the dependent part of the extremity, and avoiding range-of-motion beyond the point of pain.

Important Steps

1. Wash your hands, approach and identify the patient, explain the procedure, and enlist his cooperation.

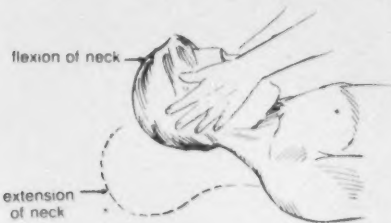
Key Points

One of the best times to do range-of-motion exercises is during the bath. Explain the need to exercise his joints to keep them flexible and prevent contractures, and how you will assist him. If you have forgotten the details, review Item 3 on page 253. Encourage the patient to plan his exercise program — the time and the amount of exercise — and to learn to actively exercise the unaffected joints on his right side.

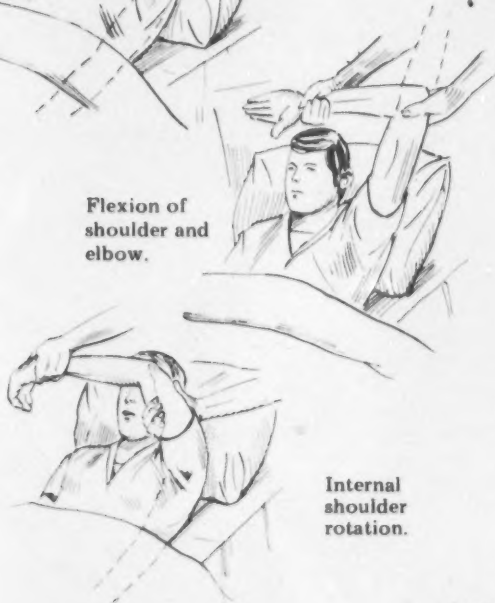
Important Steps

2. Prepare the patient.

3. Perform passive range-of-motion exercises of patient's neck and left upper extremity.



Flexion of shoulder and elbow.



Key Points

If the bed is an adjustable high-low bed, place it in the high position so you can assist the patient without stooping. Move the patient to have his paralyzed side on the proximal side of the bed so that you need not strain in reaching. Use the bath blanket or top bedding to drape the patient. This leaves the arm and leg free for movement, prevents exposure of the rest of the body, and insures the patient's modesty. If the patient is wearing pajamas, no drape may be needed except for added warmth.

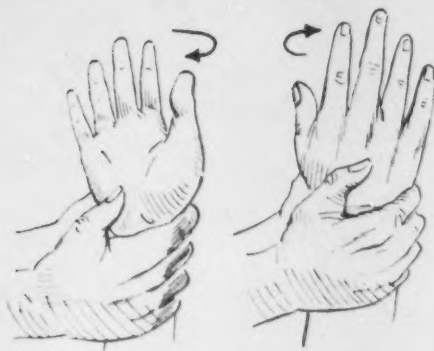
Use principles of good body alignment, balance, and movement while you carry out the procedure. Repeat each exercise a minimum of three times. *Flex* and *extend* the patient's neck by supporting his head in your hands, bringing his head forward until the chin touches the chest, and returning his head to the pillow. Rotate the neck by supporting the head with your hands and turning toward the right shoulder, then toward the left shoulder.

Exercise the patient's left *shoulder* and *elbow* by cupping his elbow with one hand and grasping his wrist with your other hand. Bring his arm up straight, flex his elbow, and move his arm up over his head. Move *slowly* and *gently* to avoid hurting the patient. This exercise includes the movements of *flexion* and *extension* of both the shoulder and elbow. Return his arm to his side.

Rotate the patient's *shoulder internally* by placing one hand on his left arm above the elbow and holding his hand with your other hand. Lift his arm and move it across his chest toward the other arm. Then return the arm to its original position. To *rotate the shoulder externally*, place one hand on his arm above the elbow, and hold his hand with your other hand. Move his arm *out* from the side in abduction, flex his elbow, and move his arm over his head *without causing him pain*. Return the arm to the original position.

Important Steps

Key Points



4. Perform passive exercises of the patient's lower left extremity.



Rotate the wrist by grasping the patient's wrist in both of your hands and turning the palm of his hand toward his face for supination, and then toward his feet for pronation.

Hold the patient's wrist with one hand, and the palm of his hand with your other hand, keeping his fingers straight. *Hyperextend the wrist* by bending his hand backward; extend it by straightening his hand; and flex the wrist by bending his hand forward and closing the fingers to make a fist. With one hand still holding the patient's hand, flex his thumb into the palm of his hand with your other hand, then extend his thumb away from the hand, and *rotate the thumb* in a circular movement.

Note: Contractures of the upper extremities most often occur in flexion position (internal rotation of shoulder, flexion of elbow, wrist, and hand).

Flex and extend the hip and knee by placing one hand under the left knee and cupping his heel in your other hand. Lift the leg up, bend the knee, and move the leg toward his chest as far as it will go without causing pain. Then straighten the leg by lifting the foot upward, and lower the leg to the bed.

Important Steps

Key Points



Abduction of hip.

To *abduct and adduct the hip joint*, place one hand under the patient's knee and the other hand under his heel. Keep the leg straight, and slowly move the leg toward you. Then return the leg to the original position.



External hip rotation.

The *hip joint is rotated* in the following manner: Place one hand under the patient's left knee, the other under the heel; lift the leg and flex the knee at right angles. Without moving the knee, pull the foot slowly toward you for external rotation, then move the foot away from you and over the other leg for internal rotation.

Note: Contractures of the lower extremities most often are in extension (internal rotation of the hip, extension of the knee and foot).



Internal hip rotation.



Plantar flexion.

To flex and extend the ankle, hold the heel in one hand and place your other hand over the foot. Pull the foot forward and push down on the heel at the same time to flex the foot in supination (plantar flexion). Then push on the foot to extend it in a "point-the-toes" position, and push up on the heel at the same time to hyperextend the foot in pronation (dorsiflexion).



Ankle rotation.

To rotate the ankle, hold the ankle with one hand; with the other hand, turn the whole foot outward, then turn it inward. The patient can be taught and should be encouraged to use his stronger extremity (arm or leg) to move the weaker extremity in the range-of-motion exercises to flex, extend, abduct, and rotate the part.

Important Steps

5. Provide for the patient's comfort.
6. Report and record, as appropriate.

Key Points

Upon completing the range-of-motion exercises, adjust the patient's pillows and the bed as he may desire for comfort. Be sure that his body remains in proper alignment.

Report to the team leader, or the nurse in charge, that the exercises have been carried out. Report and record how well the patient tolerated the range-of-motion, any changes in the amount of motion, or changes in the patient's condition, such as increased pain, spasms of muscles, difficulty in breathing, change of color of skin.

Charting example:

7:10 A.M. Range-of-motion exercises performed as part of A.M. care. Joints move more easily today, through the entire range. Experienced no pain. States he will try to do exercises by himself. Is a cooperative patient who is progressing speedily and steadily. J. Jones, SN

ITEM 9: EFFECTS OF PROLONGED BED REST

The patient needs rest to facilitate the repair of damage by injury or disease. When at bed rest, the patient can use more of his energy to combat the causes of the damage and to rebuild his defenses. However, total rest or prolonged bedrest also produces harmful effects when the body does not receive enough exercise to promote good functioning of its systems. The patient's body at total rest undergoes physiological changes in body chemistry and sometimes develops hypostatic pneumonia, pressure sores, contractures, constipation, urinary retention, insomnia, diminished appetite, and tendency to form thrombi, or blood clots. Good nursing helps combat some of these changes, but the most important measure is early ambulation of the patient.

The patient who has been in bed for several days or more, or who may have had surgery just a few hours before, will need your assistance the first time he gets up. Even minor surgery produces circulatory, chemical, and emotional disturbances in the patient. When the physician has written an order allowing the patient to get up, the first step toward ambulation is for the patient to "dangle his feet" at the bedside. In dangling his feet, the patient has time to adjust to the change in position, recover from any dizziness, and adjust to a need for deeper breathing.

Q. One advantage of bed rest for the patient with an injury or a disease is _____

R. Which of the following are some of the hazards or dangers of bedrest? Place a check mark in front of your answers.

- | | |
|---------------------------------|------------------------------|
| ___ 1. Post-operative pain | ___ 2. Blood clots |
| ___ 3. Dizziness | ___ 4. Pneumonia, hypostatic |
| ___ 5. Altered body chemistries | ___ 6. Contractures |

ITEM 10: ASSISTING PATIENT TO DANGLE LEGS

In the skill laboratory, you are to practice the steps in the procedure of assisting a patient to dangle his legs at the side of the bed. One of your fellow students, or another person, will be needed to play the part of the patient.

Important Steps

1. Wash your hands, approach and identify the patient, explain the procedure, and enlist his cooperation.
2. Position the patient.
3. Adjust the position of the bed.
4. Assist the patient to sit at the side of the bed and dangle his feet.

Key Points

The patient may be apprehensive or fearful about sitting up and dangling his feet. He may fear pain or weakness. Reassure him by explaining that you will assist and remain with him, and that dangling his feet is progress toward early ambulation which will improve his circulation and breathing and help him regain his strength.

Move the patient to the proximal side (near) of the bed. If the patient has limited movement in an arm or leg, you should work on that side so it will be on the proximal side of the bed. You will not need to reach or strain as much since the patient may be able to help move his stronger extremity from the distal side of the bed.

If it is an adjustable high-low bed, place in a low position. Elevate the head of the bed 45° or more, if possible. Raising the head of the bed allows the patient gradually to get used to the change in position, and makes it easier for you to bring him to a sitting position. Lower the siderail on the proximal side, if it is being used.

Place one hand on the patient's proximal shoulder, and the other hand under his distal axilla. Have him hold onto your shoulders with his hands, and pull him up to sitting position. Continuing to support him with your hand on his shoulder, have him brace himself with his hands on the bed. Reach behind his distal knee with your other hand, and swing his legs off the bed while pivoting his body in that direction at the same time. Your movements should be smooth and flowing, not jerky. Be sure to use the principles of good movement by having your feet apart to provide a broad base, flexing your knees and hips, and keeping your back straight.



Important Steps

Key Points

5. Provide for the patient's comfort.

Assist the patient to put on his robe, slippers, or shoes, or place a blanket over his lap to prevent exposure of his body and to provide extra warmth. Many patients will feel chilly after getting out of a warm bed. The patient's feet should be flat on the floor, or on a footstool for proper support. Observe him closely to see how well he tolerates sitting up and dangling his feet. If the patient is doing well, you could fluff up his pillows and replace them.

6. Assist the patient to return to bed.

At the end of the specified period for dangling, or if the patient is unable to tolerate sitting up and dangling his feet, help him to get back into bed. Remove his robe, slippers, or shoes, or the lap blanket. Support the patient at his shoulders with one hand, and with the other hand under both ankles, swing his legs up onto the bed while pivoting his body at the same time so that he is facing the foot of the bed. Ease the patient back to the bed in a supine position.

7. Provide for the patient's comfort.

Adjust the top covers of the bed by pulling them up to the level of his axilla, or over the shoulders. Adjust the pillows and the position of the bed as he may desire. Raise the siderails, if being used. Leave all signals nearby.

8. Report and record, as appropriate.

Report to the team leader, or the nurse in charge, that the procedure has been carried out. Report and record how well the patient tolerated dangling his feet, and any such adverse effects as extreme weakness, dizziness, profuse perspiration (diaphoresis), cold or clammy skin, change in color, pain, etc.

Charting example:

9:30 A.M. Patient dangled for first time. Became cold, clammy, and pale. Returned to supine position. Stat. Color returned at once. Vital signs stabilized. J. Jones, RN

ITEM 11: MECHANICS OF WALKING

How do you walk? Most of us would reply that you stand up and step forward on one foot, then on the other foot, and that is how you walk. We will now consider the mechanics of walking in more detail in order to assist the patient to walk.

Posture is important in walking. The body should be in *good alignment* with the head up, shoulders back, spine straight, buttocks tucked in, knees slightly flexed, and feet slightly apart with the toes pointed forward. Poor body alignment will produce strain on the muscles, loss of balance, poor coordination, and a jerky and jolting rhythm with unnecessary motion which wastes energy. Good posture in walking presents a more attractive and energetic appearance, as well as the more efficient functioning of the parts involved.

In the *walking cycle*, the person stands with both feet on the ground in the "*double stance*" position. The body weight is shifted to one foot in the "*single stance*" phase as the other foot moves forward in the "*swing*" phase. The swing phase is completed as the heel of the foot strikes the ground. In the swing phase, the body twists inward slightly. To counter-

act this twisting movement, the person swings his arm on the opposite side. The single stance phase includes shifting the body weight to the heel striking the ground, moving the weight along the outer edge of the foot to the ball of the foot, and then to the toes, as they "push off" in the swing phase for the next step.



Double stance.



Single stance.



Swing

The distance covered in each step is called a *pace*. Pace may also refer to the number of steps taken per minute. A normal pace for walking is 70 to 100 steps a minute, and a fast pace would be over 120 steps per minute. Most patients will walk at the slow pace of less than 70 steps per minute until they recover their physical strength.

In assisting the patient to walk, you should attempt to have him walk as normally as possible for him. In other words, he should stand and walk with his body in good alignment, or the best alignment possible for him (i.e., if he has pain from a new operative site, he may be unable to stand erect. However, encourage him to stand and walk as erect as possible. Patients are often fearful that their stitches will burst if they stand straight. Reassure him that this cannot happen because of the strong suture [surgical stitching material] that was used). When the patient steps forward in the swing and single stance phases, he may need your assistance to balance and support his body weight. He should be encouraged to step normally, with the heel striking the ground first, transferring his weight to the ball of his foot, and then "pushing off" with his toes, instead of shuffling, sliding forward, or letting his toes strike the ground first.

- S. The most stable phase of the walking cycle is the _____.
- T. In walking, a person swings the arm that is opposite the forward-moving foot in order to: _____.
- U. Which portion of the foot should strike the ground first when walking? _____.

U
N
I
T
14

ITEM 12: ASSISTING THE PATIENT TO WALK

In the skill laboratory, you should practice helping the patient to walk and use the principles that are related to body alignment, balance, and movement. Another person should play the part of the patient for this practice session.

Important Steps

1. Wash your hands, approach and identify the patient, explain the procedure, and enlist his cooperation.

Key Points

If he has been at prolonged bed rest, the patient may be apprehensive about walking because of weakness or fear of falling. If he had recent

Important Steps

2. Position the bed.
3. Assist the patient to a dangling feet position at side of the bed.
4. Prepare the patient.
5. Help the patient to stand.
6. Assist the patient to walk.



Key Points

surgery, he may fear pain or pulling his stitches loose. Reassure the patient that you will assist him and remain with him. Show how the incision can be supported by placing his hand along the side of it. Other patients may be so eager to walk that they may overestimate their ability and strength. You will need to caution this type of patient against overdoing; instruct him to walk slowly, and gradually to increase the distance in walking.

If he is in an adjustable high-low bed, place bed in the low position. Provide a footstool if it is a high bed. Elevate the head of the bed 30° or more to make it easier to bring the patient to a sitting position. Fold the top bedding back toward the foot of the bed.

Follow the instructions for dangling given earlier in this lesson.

Assist the patient to put on his robe and hard-soled shoes. Bedroom slippers usually have soft soles which provide little support for the foot and frequently cause slipping on the waxed hospital floors.

Have the patient place his feet firmly on the floor or footstool and place his hands on the mattress to help push himself up. Place your hand under the patient's proximal axilla, and pull him up to a standing position. Stand at his side and hold on to his arm or shoulder to support him as he stands and balances himself before stepping down from the footstool or beginning to walk.

Check his posture and encourage him to walk with his head up, eyes looking forward, and back straight. Help support him by walking at his side.

- a. For *minimal support*, the patient holds your elbow or hand with his hand;
- b. For *moderate support*, hold the patient's left hand with your left hand, with your right hand holding him around the waist;
- c. To provide *more than moderate support* (to prevent the patient's loss of balance or falling), you should have another person help you so that support can be provided at each side.

Important Steps

7. Assist the patient to return to bed.
8. Provide for the patient's comfort.
9. Report and record, as appropriate.

Key Points

Have the patient walk to the side of the bed, pivot so that his back is to the edge of the bed, and reach for the mattress with his hands for support. With your hand under his axilla, help him to a sitting position. Remove his robe and shoes. Help him swing his feet onto the bed as in the instructions given for dangling. Use footstool as necessary.

Adjust the top bedding and pull it up to his axilla or over his shoulders. Adjust the pillows and the position of the bed as the patient may desire. Make sure his body is in good alignment.

Report to the team leader or the nurse in charge that the patient has been helped to walk. Report and record the length of time the patient walked, how well he tolerated ambulation, and any changes in the patient's condition, such as complaints of pain, profuse perspiration, dizziness, headache, or difficulty in breathing.

Charting example:

10:15 A.M. Patient ambulated the full length of the hall. Tolerated well. Returned to bed quite tired.
J. Jones, RN

ITEM 13: PREVENTION OF PATIENT FALLS

A frequent question that comes up when assisting patients to ambulate is "What do you do when the patient starts to fall?" Patient falls are the most common accidents that occur in the hospital, extended care facility, or the home. *What should you do?*

As much as possible, the physical and environmental hazards that contribute to falls should be eliminated. Spills on the floor should be wiped up promptly, and foreign objects should be picked up. During the mopping or waxing of floors, the area should be posted and preferably roped off so that no one walks on the wet surface. Floor wax should be of the non-slip type. Electric cords should be shortened and not allowed to lie loose on the floors. Small objects or equipment should be removed from areas where the patient will walk. To provide additional safety for patients, siderails should be used on the bed for restless, aged, confused, or sedated patients. The patient's ability to balance and support his weight when ambulating should be evaluated, and adequate assistance provided or mechanical aids used.

In spite of all these precautions, the patient may lose his balance when walking and begin to fall. The assistance that you can provide will depend on the size of the patient, whether his center of gravity is still within his base of support, and on your size.

V. The most common type of accident among patients in the hospital is _____.

ITEM 14: WHY PATIENTS FALL AND WHAT TO DO

Basically, the standing person will fall in one of two ways, either as the result of the *collapse* of his lower extremities, or through the *loss of his balance*. In the collapse type of fall, the muscles of the legs lack the strength needed to support the body weight. The extensor muscles of the knees give way to gravitational pull so that the knees "buckle under" the person, and he falls. In the collapsing fall, the safest method of assistance is to try to "break the fall" and ease the patient slowly to the floor. You should be walking at the

patient's side or slightly behind him when assisting him to walk, so that you can grasp him firmly at the wrist or under his axilla and ease him down to the floor if he begins to fall. It is necessary for you to keep your body in good alignment, with your line of gravity within your base of support, and to lower your own body by stooping correctly.

You will remember that stability is maintained when one's line of gravity and center of gravity are within the base of support. When the patient loses his balance and begins to fall, his line of gravity and center of gravity are outside his base of support.



Stable balance.



Loss of balance.



Breaking patient's fall.

Unless you can bring the patient's line of gravity and center of gravity within his base of support, he will continue to fall. In order to help him to regain his balance you need to be large enough and strong enough to overcome the force of the patient's body weight moving downward. With an adult patient, *once he has started to fall*, the amount of force that is needed is more than you can safely provide. You should then attempt to break his fall, slow his rate of descent, and ease him to the floor in order to avoid possible injury to him or to yourself. Remember, it is easier to guide the patient slowly down to the floor than it is to lift him up.

You may have an urge to try to hold up or to lift the falling patient. If you act on this impulse, you risk losing your own balance and falling, or straining or injuring your muscles. *The most common disabling injury of hospital workers is muscle strain*, usually of the lower back. Many of these injuries could be avoided through the use of good body alignment, proper movement, and safer methods of work.

Any patient who has fallen, or who has been eased to the floor, should be examined by the doctor or a nurse for possible injury before being moved. You should stay with the patient, comfort and reassure him, and have someone go for additional help to get the patient up or return him to bed after he has been examined. (Remember to maintain patient's modesty.)

W. When a person loses his balance and begins to fall, his center of gravity is: (Select the best answer.)

- ___ 1. too high from his base of support.
- ___ 2. too close to his base of support.
- ___ 3. inside his base of support.
- ___ 4. outside his base of support.

X. Once a patient has started to fall, the best method of helping him is to _____

Why would you use this method? Explain: _____

- Y. You are helping a patient to walk who weighs about 200 lbs. He has begun to fall. If you tried to prevent his falling farther, what possible effect might this action have on you?

ITEM 15: COMPLETION OF LESSON

You have now completed the lesson on patient movement and ambulation which has included range-of-motion, dangling, walking, and patient falls. Please make an appointment with your instructor to take the post-test.

V. INFORMATION FOR ENRICHMENT

Since exercise and ambulation are so important to the patient, you may be interested in reading more about the role of movement in nursing care. Patients with orthopedic, neurological, or cardiovascular problems may have limited movement and special needs related to the disease. You will add more skill to your care of these patients as you learn more about their special needs. So much has been written about nursing care of specific diseases that to start you off, only a few articles will be listed. Many of the articles have references at the end which you can use to find other related articles and books.

- Carnevali, Doris and Susan Brueckner, Immobilization — Reassessment of a Concept, *American Journal of Nursing*. 70:1502-07, July 1970. The many types of immobilization (physical, emotional, intellectual, social) and their causes are illustrated in a case study of a patient with cardiovascular accident.
- Elwood, Evelyn, Nursing the Patient with Cerebrovascular Accident, *Nursing Clinics of North America*. March 1970, pp. 47-53. Basic nursing care includes support for paralyzed limbs and describes some major considerations in acute and long-term care cases.
- Haber, Martha E., Parkinson's Disease: Challenge to the Health Professions, *Nursing Clinics of North America*. June 1969, pp. 263-273. The challenge posed by this neurological disease that causes muscular rigidity and flexion contractures is described, and a plan for nursing care is outlined.
- Stone, Virginia, Give the Older Person Time, *American Journal of Nursing*. 69:2124-27, October 1969. Explains why the older person requires more time to perceive, to learn, and to move.
- Tooley, Patricia and Corrine W. Larson, Range-of-Motion Exercise: Key to Joint Mobility, American Rehabilitation Foundation. Minneapolis, Minnesota, 1968.

WORKBOOK ANSWER SHEET

- | | | |
|----------------|----------|--|
| VI. Vocabulary | Page 251 | A. The best answers for the meaning of the words are:
3 proximal
8 abduction
9 extension
7 contracture
4 flexion
2 stroke
6 distal
1 adduction |
| Item 1 | Page 252 | B. Among the four answers of how exercise promotes body functions could be these, and others not listed in the item:
promotes firmness, tone, and elasticity of muscles
promotes elimination of waste products
strengthens and hardens the bones
maintains blood pressure
promotes blood circulation
stimulates the appetite
reduces fatigue
promotes respiratory action
C. movement; or exercise |
| Item 2 | Page 252 | D. muscles
E. joints
F. (1) freely movable; (2) freely movable; (3) slightly movable; (4) freely movable |
| Item 3 | Page 253 | G. flexors
H. flexion
I. less than 3 weeks |
| Item 4 | Page 254 | J. All of his joints should be exercised.
Exercises should start as soon as possible and you could give them during the bath.
K. passive, active |
| Item 5 | Page 254 | L. Some of the feelings the patient may have are related to his inability to speak clearly, inability to move his left side, worry about his role as a father and husband, concern about his ability to return to work, provide for his family, etc.
M. The rehabilitation team could be: (1) nurse, (2) physician, (3) speech pathologist, (4) physical therapist, (5) occupational therapist, (6) family |

- | | | |
|---------|----------|---|
| Item 6 | Page 255 | N. yes
O. adduction, abduction, extension, flexion, and opposition or grasping. |
| Item 7 | Page 252 | 1. raising the arm forward
2. a. flexion
b. extension |
| | Page 255 | P. a. internal rotation
b. external rotation
c. internal and external rotation
4. yes |
| Item 9 | Page 260 | Q. repair the damage; or rebuild defenses
R. check marks for numbers 2, 4, 5, and 6 |
| Item 11 | Page 262 | S. double stance
T. counteract the twist of the body
U. the heel |
| Item 13 | Page 265 | V. patient falls
W. (4) |
| Item 14 | Page 265 | X. Ease him to the floor. This method provides more safety for the patient and the worker by breaking the force of the fall and working with gravity rather than trying to lift against gravity; prevents possible injury to patient and worker.
Y. You may lose your balance and fall, strain your muscles, or injure yourself. |

POST-TEST

Section 1. Fill in the blanks in the following statements. The statements contain the vocabulary which was used in this lesson. Your answer should be the word(s) which the statement best describes.

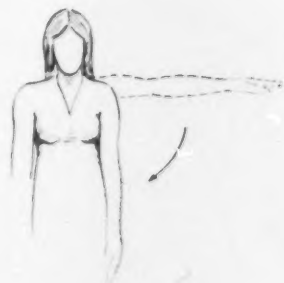
1. The triangular bone of the lower posterior torso is the _____.
2. _____ is the turning upward of the sole of the foot.
3. In the walking cycle, a _____ is the distance covered from one single stance to the next single stance.
4. The _____ is the bony basin-like cavity of the lower torso.
5. The movement of turning outward on an axis is called _____.
6. The movement of turning the palm of the hand downward is _____.
7. Movement of one person's joint or limb by another person is _____.

Section 2. The following diagrams show different types of movement. Please fill in the name of the movement and then circle the best answer of the choices given in the accompanying statement.

8. The movement is _____.
The movement that occurs is (circular)
(decrement).



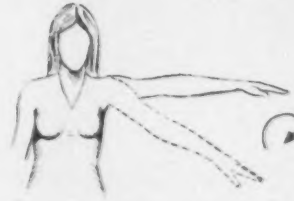
9. The movement is _____. The distance from the midline is (increased)
(decreased).



10. The movement is _____. The angle between the two parts is (increased)
(decreased).



11. The movement is _____. The arm forms the (apex) (base) (side) of the cone.



12. The movement is _____. The distance from the midline is (increased) (decreased).



13. The movement is _____. The angle between the two parts is (increased) (decreased).



Section 3. In the situation described below, several multiple choice questions are asked. Select the best answer(s). More than one answer may be right.

Mr. Bond is a 67 year old man in Bigtown University Hospital who had a stroke three days ago. He has been in the Intensive Care Unit until one hour ago when he was transferred to the Medical floor. He is one of the patients assigned to you for care. When you first meet Mr. Bond, you notice that his mouth droops on one side, his speech is limited to "bolero," "soup," and "no" at this time, and that his left arm and leg are paralyzed. He is conscious, but seems quite depressed.

1. Later that morning, you return to Mr. Bond's bedside and explain that you will give him his bath and exercise his paralyzed arm and leg. He sobs and says "Boler, bolero, bolero." You don't understand what he is trying to say. What would you do now?
 - a. Report to the team leader that he is crying, that he keeps saying "Boler", and you wonder if he is having pain or discomfort.
 - b. Ask the patient to nod his head for "yes" and shake his head for "no", then explain again and ask questions to see if he understands what you mean.
 - c. Go ahead and carry out the bath and exercises. He must be confused since he isn't making sense, and you know that he needs the exercises.
 - d. Tell Mr. Bond that he shouldn't cry, reassure him that everything will be all right, and give him his bath.

2. Mr. Bond's tray arrives with his lunch. As you feed him, you hand him a piece of bread which he holds in his unaffected hand. As he moves his hand to his mouth to eat, what movement does he use?
- ___ a. flexion of the wrist
 - ___ b. external rotation of the shoulder
 - ___ c. internal rotation of the shoulder
 - ___ d. pronation of the wrist
3. When feeding Mr. Bond from a position on the left side of his bed, you notice that he doesn't seem to be able to see your hand and the food until it is near his mouth. In order to see more on his left side, he raises his head slightly from the pillow and turns his head in order to look straight at you. The movements of his neck would be:
- ___ a. flexion and abduction
 - ___ b. flexion and rotation
 - ___ c. hyperextension and rotation
 - ___ d. extension and adduction
 - ___ e. none of these
4. The exercise program you have planned with Mr. Bond includes the range-of-motion exercises during his bath time. He has become interested in exercising the joints of his right side, but needs you to exercise his affected side. When performing the range-of-motion, you know that you must:
- ___ a. place several pillows under the affected knee to support it.
 - ___ b. support the part distal to the joint being ranged.
 - ___ c. avoid moving the paralyzed joints.
 - ___ d. avoid moving beyond the point of pain.
5. Mr. Bond's rehabilitation includes physical therapy and speech therapy. He has been making a lot of progress since his stroke. His speech has improved greatly and he has been learning to balance, stand, and use the parallel bars in physical therapy. Although other patients would go to an extended-care facility, Mr. Bond is being kept in the hospital. His doctor has written an order allowing Mr. Bond to get up and walk with assistance. Before you assist him to walk for the first time, you help him to dangle his legs. The reason(s) for this could be:
- ___ a. to strengthen his leg muscles before he stands.
 - ___ b. to see how well he maintains his balance with one side paralyzed.
 - ___ c. to adjust to the change of position and recover from any dizziness.
 - ___ d. to prevent contractures of his paralyzed arm and leg.
6. When helping a patient like Mr. Bond who is paralyzed on his left side, you would have him dangle his feet on the left side of the bed because:
- ___ a. he should avoid turning to his unaffected right side.
 - ___ b. if he loses his balance, his paralyzed side is closer to the bed.
 - ___ c. it would be easier for him to move his stronger right side from the distal side of the bed.
 - ___ d. you don't have to reach so far to support his weaker left side.

7. The weak or unsteady patient, like Mr. Bond, will require most of your assistance when walking during the
- ___a. swing phase
 - ___b. single stance phase
 - ___c. double stance phase
8. Let us assume that Mr. Bond is now ready to walk with assistance. You and Miss Jones will help him walk in his room for the first time. Which of the following would you do?
- ___a. Provide support with one person on each side of the patient.
 - ___b. Make sure his bedroom slippers have a soft sole so his left foot will bend it easier.
 - ___c. Have him hold his head up, look forward, and walk at a pace of about 80 steps per minute.
 - ___d. Encourage him to walk as normally as possible and have his right heel strike the ground first.
9. Suppose that Mr. Bond has made progress in walking. You later assist him by yourself to walk to the bathroom. He has taken about 10 steps when suddenly his left knee buckles and he begins to fall. You have been walking on his left side. What would you do?
- ___a. Grasp him firmly at the waist and chest to keep him from falling to the floor.
 - ___b. Use your right thigh and foot to brace his buckling knee and foot to help him regain his balance.
 - ___c. Hold onto him to slow his rate of descent, and ease him to the floor.
 - ___d. Brace your feet firmly to overcome the force of his fall and call for help.
10. If Mr. Bond should fall, the probable reason for this would be:
- ___a. His line of gravity and center of gravity are outside his base of support.
 - ___b. His line of gravity and center of gravity are inside his base of support.
 - ___c. His unaffected right leg is unable to support the weight of his body.
 - ___d. His affected left leg is unable to support the weight of his body.

You have now completed the written post-test. You will need to complete the performance test through demonstration for your instructor.

POST-TEST ANNOTATED ANSWER SHEET**Section 1**

1. sacrum (p. 250)
2. supination (pp. 251 and 252)
3. pace (p. 250)
4. pelvis (p. 250)
5. external rotation (p. 255)
6. pronation (pp. 250 and 252)
7. passive exercise (p. 254)

Section 2

8. rotation; circular (pp. 252 and 255)
9. adduction; decreased (p. 252)
10. flexion; decreased (p. 252)
11. circumduction; side (p. 252)
12. abduction; increased (p. 252)
13. adduction; decreased (p. 252)

Section 3

1. b (p. 255)
2. c (p. 256)
3. b (p. 256)
4. b and d (p. 257)
5. b and c (p. 260)
6. c and d (p. 261)
7. b (p. 263)
8. a and d (p. 264)
9. c (pp. 265 and 266)
10. d (p. 265)

PERFORMANCE TEST

In the skill laboratory, you will be asked to perform the following activities for your instructor without reference to any source material. You will need another person to take the part of the patient.

1. Given a patient with limited or no motion in the joints on one side of his body, you will explain the need for exercising all of his joints and put his affected joints through range-of-motion exercises. In ranging the joint, you will support the part distal to the joint and avoid movement to the point that it causes pain.
2. Given a patient who has been on bed rest and must be gotten up to dangle his feet at the side of the bed, you will assist him to a sitting position, pivot his body, and swing his feet off the bed, using smooth flowing motions and principles of good body alignment and movement.
3. Given a patient who has been on bed rest and is to get up to walk, you will assist the patient to dangle his feet at the side of the bed, help him stand and balance at the bedside, and then walk, using principles of good body alignment, balance, and movement.
4. Given a patient who has begun to fall, you will assist him by grasping him firmly, slowing his rate of descent, and easing him slowly to the floor, using principles related to gravity to avoid possible injury to the patient or yourself.

PERFORMANCE CHECKLIST**PATIENT MOVEMENT AND AMBULATION****RANGE OF MOTION EXERCISES**

1. Wash hands.
2. Identify patient.
3. Explain the procedure to patient.
4. Move patient to the proximal side of bed (on affected side).
5. Orient patient to the need for exercise.
6. Exercise affected joint by range of motion exercise, where applicable.
 - A. Abduction
 - B. Adduction
 - C. Flexion
 - D. Extension
 - E. Internal rotation
 - F. External rotation
 - G. Circumduction
 - H. Hyperextension
7. Throughout the procedure be careful not to cause pain to patient.
8. Support distal and proximal ends of the limbs during the exercise.

DANGLING

1. Wash hands.
2. Identify patient.
3. Explain procedure to patient.
4. Move patient to proximal side of bed.
5. Adjust bed to low position. Raise head rest to approximately 45 degrees.
6. Raise patient to a sitting position with one hand on patient's proximal shoulder and the other under patient's distal axilla.
7. Continue supporting shoulder and place other hand under distal knee, swinging legs off bed while pivoting patient's body.
8. Maintain principles of good body alignment while completing the motion. Patient movement should be slow, smooth, and steady.
9. Dress patient in robe and slippers for comfort and modesty.
10. Fluff pillow while patient is dangling.
11. Remove slippers and robe when patient is ready to lie down.
12. Return patient to supine position, using one hand on patient's proximal shoulder and the other under patient's distal axilla.

13. Support patient's shoulders with one hand, with other hand under both ankles.
14. Swing legs up onto bed while pivoting body.
15. Maintain principles of good body alignment while completing motion. Patient movement should be slow, smooth, and steady.

ASSIST PATIENT TO WALK

1. Wash hands.
2. Identify patient.
3. Explain procedure to the patient.
4. Move the patient to proximal side of bed.
5. Adjust bed to low position.
6. Raise patient to sitting position, with one hand on patient's proximal shoulder and the other under patient's distal axilla.
7. Continue supporting shoulder and place other hand under distal knee, slipping legs off bed while pivoting patient's body.
8. Assist patient to stand at bedside.
9. Align patient in good body position, correcting posture.
10. Walk with patient:
 - A. Minimal support: hold patient's arm or hand.
 - B. Moderate support: hold patient's left hand in left hand, with right hand around waist.
 - C. Great support: obtain assistance by having one aide or health worker walk on other side of patient.
11. The health worker must maintain good body alignment and balance throughout the procedure.

SAFEGUARDING THE FALLING PATIENT

1. Explain the rationale for breaking the patient's fall and for not catching him.
 - A. Injury to patient.
 - B. Injury to self.
 - C. Abrupt change in movement.
2. As patient begins to fall, worker positions herself to the rear of patient, attempting to break fall by grasping patient under armpits.
3. Once contact is made, the health worker flexes her legs to lower the patient gently to the ground.
4. Maintain the patient in a sitting or lying position on the floor.
5. Remain with patient, reassuring patient and providing warmth until required help arrives.
6. Examine patient for possible injury.
7. Prepare accident report.

Unit 15

MECHANICAL AIDS FOR AMBULATION AND MOVEMENT

I. DIRECTIONS TO THE STUDENT

You are to proceed through the lesson using this workbook as your guide. You will need to practice the procedures related to the use of mechanical aids for ambulation and movement with student partners in the skill laboratory, or with other persons. After you have completed the lesson and your practice of the procedures, arrange with your instructor to take the post-test.

For this lesson you will need the following items:

1. This workbook
2. A pen or pencil
3. A walker
4. A pair of crutches
5. A wheelchair
6. A walking belt or drawsheet
7. A back brace
8. A short leg brace, if available
9. A robe
10. Slippers or shoes
11. Post-test for this lesson

Please read the following paragraphs carefully. They will indicate what you will be expected to know and how you will be expected to assist the patient to use such mechanical aids as a *walker*, *wheelchair*, *crutches*, and *braces*. If you feel that you have the necessary skills and would be wasting your time studying this material, discuss this with your instructor. You would then arrange to take the performance test. All students are expected to accurately demonstrate the required skills in the performance test.

II. GENERAL PERFORMANCE OBJECTIVE

Upon completion of this lesson, you will demonstrate your ability to assist the patient (or another person) to use the common mechanical aids for ambulation or movement in a safe and effective manner.

III. SPECIFIC PERFORMANCE OBJECTIVES

When this lesson is completed, you will be able to:

1. Assess any physical or mental condition which may interfere with the patient's ability to use the mechanical aids in his ambulation or movement; assess your own ability or limitations in carrying out the required procedure; when needed, obtain additional help.
2. Communicate patience, gentleness, and concern for the patient verbally as well as nonverbally through your behavior and actions.
3. Assist the patient (one who is able to stand) to transfer from the bed to a wheelchair by positioning the chair; set the brakes, then have him dangle his legs from the bed, have him stand, pivot his body, and sit in the wheelchair; then transfer him out of the wheelchair.
4. With assistance, transfer a patient (one who is unable to stand) from the bed to a wheelchair by positioning the chair, setting the brakes, positioning the patient, lifting on signal, placing in wheelchair, and adjusting the leg and foot rests. The principles of good body alignment, balance, and lifting must be used.
5. Instruct the patient in use of wheelchair when it is to be used by him as a method of locomotion.
6. Assist the patient in bed to transfer into and out of a walker in a safe manner so as to prevent slipping or falling, and adjust the walker to the height best suited to his use.
7. Measure and adjust a pair of crutches to the proper length needed by the patient, and adjust the hand-bar.
8. Demonstrate two-point, three-point, and four-point crutch-walking, and explain the conditions related to each type of crutch-walking.
9. Explain the principles of crutch-walking and the cause of "crutch palsy."
10. Apply a strap-on type of back brace for the patient, and explain how to check for proper fit and for possible pressure areas.
11. Apply a short leg brace to the patient's leg, and explain the care of the brace and how to check for proper fit and for possible pressure areas.

IV. VOCABULARY

Some of the new words introduced in this lesson are listed below.

ambulation — process of walking.

axilla (plural, axillae) — armpit.

auxiliary bar — upper crosspiece of crutch fitting under the armpit.

bony prominence — a jutting out or protruding portion of a bone, i.e., shoulder blade (scapula).

brace — an appliance made of fabric, leather, plastic, or metal that supports a specific portion of the body.

crutch palsy — condition caused by pressure on nerves in the axilla which results in weakness of the forearm, wrist, and hand.

crutch — a staff or support used in walking, usually with a crosspiece to fit under the armpit (axilla).

four-point, three-point, two-point gaits — methods of walking with crutches.

irritation — a stimulation that causes physical reaction of the skin or organ, such as redness or itching.

locomotion — the process of moving from place to place.

mechanical lifter — a device utilizing hydraulic principles so that a small force can lift a heavy weight.

Naugahyde — a tough and sturdy synthetic upholstering material.

pallor — lack of color, paleness.

pressure — the exertion of a force upon a part by another part in contact with it.

self-esteem — the respect and value which a person sets upon himself.

therapeutic — pertaining to the treatment or cure of a disease.

walker — a metal rectangular frame with wheels used to assist a person to walk.

wing screws — adjustment screws, used on walkers, crutches, and other devices, that have two thumbpieces, or wings, for easier use.

ITEM 1: WHY DO YOU NEED TO KNOW ABOUT MECHANICAL AIDS?

Movement is one of the primary functions of the body. The heart pumps and moves the blood through the body, the chest wall moves to allow the lungs to draw in and expel air, the eyelids blink to protect and lubricate the eye, the jaws move so that the teeth may chew food, etc. The muscles, bones, and joints work together so that a person may move himself from one position to another. For the patient, the ability to move about or to walk during his illness or convalescence decreases his dependence on others, and increases his self-esteem. It also improves his mental outlook and widens his world beyond his bed or the four walls of his room. The general functioning of all of his body systems is enhanced through movement.

In order to move about or to walk, the patient may need to use a mechanical aid, such as a wheelchair, walker, crutches, or braces, either temporarily or permanently. In general, when such an aid is needed permanently by the patient, he is taught how to use it by a physician, a physical therapist, or a member of the rehabilitation team. However, when the patient requires the use of a wheelchair, walker, or crutches on a temporary basis, teaching the patient how to use the device often becomes the responsibility of the nursing worker. As the nursing worker, you must know how to use the mechanical aid safely and effectively before you can teach the patient how to use it.

Please complete the following statements:

- A. The use of a mechanical aid by the patient for walking or moving about may be on a _____ or a _____ basis.
- B. The nursing worker may be responsible for teaching the patient how to use a pair of crutches when these are to be used on a _____ basis.

ITEM 2: WHAT KINDS OF MECHANICAL AIDS ARE USED IN AMBULATION?

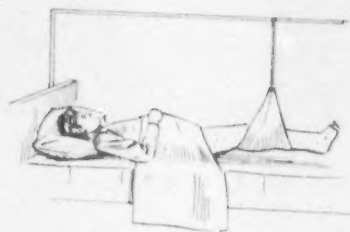
The type of mechanical aid that is selected for the patient's use will depend on his physical condition and the degree of support that he needs. General support for the body is provided by the wheelchair, the walker, and crutches, with the wheelchair furnishing the greatest support. Braces support specific portions of the body. Some patients with orthopedic (bone) problems may progress from one aid to the next, whereas most patients may need the general support of a wheelchair for a short time until they can walk unassisted. The pictures on the next page show how a patient may progress toward walking unaided.

Not all patients regain the strength and ability needed to walk unaided. Some patients, like some of the elderly, become weaker and need progressively more support until the only way they can get about may be in a wheelchair. It is important that you remember to encourage the patient to do what he can for himself and to provide support for the motor abilities that he lacks.

The support provided by mechanical aids allows for a *progression* by the patient toward walking without assistance. The levels in the progression toward ambulation are shown in the diagrams below.



Person falling.



Patient in bed — maximum support.



Patient in wheelchair — intermediate support.



Patient in walker — intermediate support



Patient with crutches.



Patient with leg brace.



Patient walking unassisted.

The patient's physician orders the level or the degree of ambulation desired for the patient. This level of ambulation may be the goal for the patient to achieve or the limitation of the amount of freedom allowed because of his condition. Generally, you may use the mechanical aids for the patient which are *below* the level ordered by the doctor, but *not those above* this level. As an example: The doctor said, "Use crutches for walking." The patient should be encouraged to use crutches for some or most of his walking, but you may provide a wheelchair or a walker for his use when he is tired, becomes weak, or has to travel a longer distance than usual. However, you should not allow the patient to walk without his crutches, because this would be ambulation at a higher level than allowed in the doctor's order.

From the information given, you should be able to answer these questions:

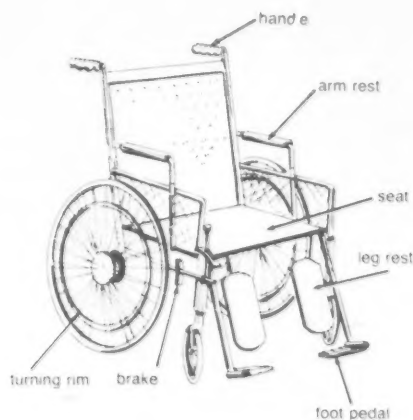
- C. Mrs. Jay had an abdominal operation three days ago and now must be taken to X-ray. The doctor has written an order for Mrs. Jay to be up in a chair four times a day. Which of the mechanical aids would you use to take Mrs. Jay to X-ray?
-
- D. Mr. Zee came to the hospital several days ago for various tests. He is 68 years old, and the doctor has prescribed ambulation as desired. He feels weak today following extensive laboratory tests, but would like to go to the patients' solarium to visit with his wife. What kind of supportive aid would you provide for Mr. Zee, and why?
-

ITEM 3: THE WHEELCHAIR

Now we will examine the wheelchair. It is the most commonly used aid to move the patient safely from one place to another, and provides a great degree of general support for the patient when he is out of bed.

A wheelchair consists of a seat on a frame suspended between two large rear wheels and two small front wheels. It has a turning rim on the large wheels, pushing handles on the rear of the seat, foot rest pedals, and brakes. Most wheelchairs are constructed so that they can be folded for storage and transportation. The seat and back are usually made of a plastic or Naugahyde material which is easily cleaned with a damp cloth.

In order to be transported in a wheelchair by another person, the patient must have the ability to sit in an upright position. For the patient to move himself about in a wheelchair, he must be able to sit upright, support his upper body and head, and have the use of at least one of his arms in order to turn the wheel or to set the brakes. The patient who is to use the wheelchair himself to move about should be instructed in the techniques of using the chair. This consists of teaching the patient how to set the hand brakes, transfer into and out of the chair, raise or lower the foot rests with his foot, and propel the chair.



E. In order to propel himself in a wheelchair, a patient needs to be able to:

- (1) _____
- (2) _____
- (3) _____

ITEM 4: WHEELCHAIR TECHNIQUES

Let us now consider some of the elements of wheelchair technique. First, the wheelchair should be equipped on each large wheel with a brake that is operated by a hand lever. The accompanying figures show the hand brake in a "set" or locked position and in a released or unlocked position.



Set, or locked.



Released, or unlocked.

F. Locate the hand brake levers on your wheelchair and set the brakes on both wheels.

With the brakes in the set or locked position, now locate the foot rests pedals. Notice that each pedal can be swung upward to provide a clear entry to the chair and can be swung downward to serve as a foot rest for the person in the wheelchair.

Now raise the foot rest pedals and sit in the wheelchair. Raise one foot and use it to swing the foot rest pedal down for that foot; repeat, using the other foot. Now remove one foot from the foot rest, use the toe to swing the foot rest pedal upward, and place foot on floor. Repeat, using the other foot, and swing up the other pedal.



Foot rest pedals in down position.

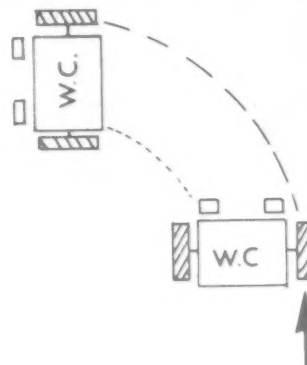


Raising foot rest pedal with foot.

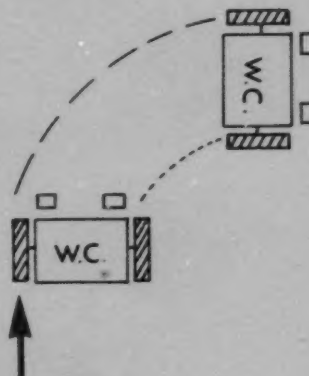
G. You should practice lowering and raising the foot rest pedals, using both feet. Now try lowering and raising the pedals using only one foot.

Pushing a patient in a wheelchair requires equal pressure on both handles for straight-ahead motion. To make a left turn with the wheelchair, your left hand on the handle should move just slightly or not at all, and you must exert more push on the right handle as the right portion of the chair moves a greater distance to make the turn. To make a right turn, the pressures would be reversed.

When approaching a closed door, turn the wheelchair around so that you approach the door backwards. You can then use one hand to open the door and pull the chair through as your body continues to force the door to open.



wider. Turn the wheelchair around to a forward position after you have cleared the door. This method avoids possible injury to the patient's feet or arms, damage to the finish of the door, and awkward or jerky movements of your body which may result in injury.



- H. You should practice pushing another person in the wheelchair, making several left and right turns, and going through a door.

To propel yourself in a wheelchair, sit in the chair, place your feet on the foot rests, and release the brakes on both wheels. Place your hands on the turn rim of the large wheels. For a straight-ahead movement, roll the rims forward with equal force on both rims. Turns to the left or to the right are made in the same manner as when you push the wheelchair by the handles, only now you use the turning rim.

- I. Practice propelling yourself in a wheelchair and making right and left turns.

You have practiced those steps of wheelchair technique that relate to the use of the hand brakes, the foot rest pedals, and propelling or pushing the chair. Now we will go on to the procedure of transferring the patient into and out of the wheelchair.

ITEM 5: WHEELCHAIR PROCEDURAL SKILLS

In the skill laboratory you are to practice the procedure of transferring a patient (who can stand) into and out of a wheelchair. Have one of your fellow students play the role of the patient. A bed should be available for use by the "patient."

Important Steps

1. Obtain the wheelchair.

Key Points

Attempt to select a wheelchair appropriate to the size and condition of the patient. Use a small size for children, standard size for the average adult, and large size with reinforced frame for very heavy adults. A chair with a high back or an extension back will provide support for the shoulders and head of the very weak patient. Check working order of brakes, wheels, arm and leg rests, foot pedals, and seat (safety) belts if used in your agency. Safety belts work in same manner as seat belts in your car. Wash your hands.

Important Steps

2. Approach and identify the patient, explain the procedure, and enlist his cooperation.
3. Assist the patient to a "dangling-feet" position at the side of the bed.
4. Position the wheelchair at side of bed near patient.
5. Stand the patient.
6. Assist patient into the wheelchair.
7. Transfer patient out of wheelchair.
8. Provide for the patient's comfort.
9. Remove the wheelchair.
10. Report and record as appropriate.

Key Points

The patient may be apprehensive about getting into a wheelchair, or may feel that its use is a sign of weakness and that he can walk unaided. Accept the patient's right to his feelings, and explain that the wheelchair is a safe method of moving, a measure of independence, or a sign of progress.

If patient is in an adjustable high-low bed, place the bed in the low position. Assist the patient to dangle according to instructions on "Patient Movement." Dress patient in robe and slippers.

Position the chair parallel to the side of the bed. Place back of chair even with foot of bed; the seat will be facing the head of the bed. Set the brakes on both wheels. Raise both foot rest pedals.

Have patient push his body up from the bed or have him clasp your hands, arms, or shoulders and rise to a standing position. Use principles of good body alignment and movement to prevent injury to yourself.

Have patient pivot so that his back is toward the seat of the chair, then reach down to grasp the arms of the chair, and have him lower himself to a sitting position. Step to side of wheelchair, facing the patient. Support patient at armpit nearest you with your left hand. With your right hand, steady the wheelchair. Assist the patient to lower himself gently into the wheelchair. Then place both his feet on foot rests. Disengage or release the brakes.

Reverse the procedure used to transfer patient into the wheelchair. Position side of wheelchair parallel to the side of the bed facing foot of bed. Set both brakes, raise the foot rest pedals, and have patient push on arm rests to a standing position. Have the patient pivot so that his back is toward the bed and ease to a sitting position on the side of the bed. Remove his robe and slippers and swing both of the patient's feet onto the bed.

See that the patient is lying in good body alignment. Adjust the bed and the pillows as the patient may request. Straighten top bedding. Place bedside stand and call signal within easy reach.

Release brakes. Return chair to storage.

Report to the team leader or the nurse in charge that the procedure has been carried out. Report any changes in the patient's condition or any complaints that he may have had, such as discomfort caused by moving, change in the

Important Steps**Key Points**

color of skin, pallor, flushing, profuse perspiration, distress in breathing, or headache.

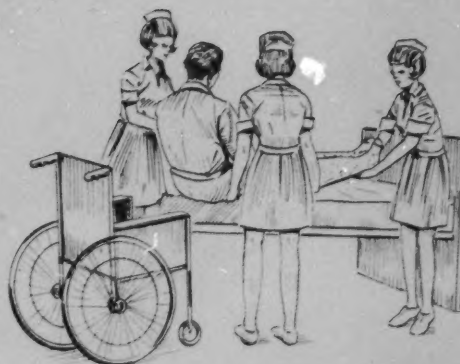
Charting example:

2:10 P.M. Ambulated in wheelchair in hallway for 20 minutes. Condition remained good throughout activity. Returned to bed. Complained of being extremely weak. Vital signs remained stable.

J. Jones, SN

ITEM 6: WHEELCHAIR PROCEDURAL SKILLS (HELPLESS PATIENT)

You will need two people to assist you to transfer a patient who cannot stand from bed to wheelchair. You will be using a form of the *three-man carry* in this procedure to transfer the patient in and out of the wheelchair. See "Body Alignment, Balance and Movement for Health Workers, Part II." In the skill laboratory, practice this procedure until you feel at ease with it and confident of your ability to perform it with an actual patient.

**Important Steps****Key Points**

1. Obtain wheelchair from storage.
2. Approach and identify the patient, explain the procedure, and enlist his cooperation. (Take vital signs, if indicated.)
3. Position the wheelchair near the bed.
4. Position and prepare the patient.
5. Transfer the patient into the wheelchair using the three-man carry.

In addition to the points listed in the preceding item, make sure that the wheelchair has leg rests if one or both of the patient's legs needs to be elevated. Wash your hands.

The patient may have fear of being dropped or of slipping. Having two persons to assist you should reassure him.

Allow enough room so that all three workers will have space to move from bed to wheelchair with the patient. Set the brakes on both wheels. Adjust the leg rests parallel to the seat of the chair if one or both of the patient's legs are to remain elevated. The leg rest may then be padded with a pillow, for the patient's comfort.

Move the patient to the proximal side of the bed. Dress the patient in robe and slippers, if appropriate.

The three workers take their places at the patient's side — one at the head and shoulders, one at the hips, and one at the feet. Using good body movements for lifting a heavy object, reach both arms under the patient, cradle his body toward the chest, and on your signal, all rise and move the patient toward the side of the wheelchair. Lower the patient into the chair,

Important Steps

6. Transfer the patient out of the wheelchair, using the three-man carry.

7. Provide for the patient's comfort.

8. Remove the wheelchair.

9. Report and record as appropriate.

Key Points

and settle him in a sitting position. Adjust the leg and foot rests, and release the brakes. Cover the patient with a blanket for warmth and modesty, if necessary.

Reverse the procedure. Position the patient and wheelchair near the foot of the bed, allowing enough space for the three workers to move from the chair to the bed with the patient. Set the brakes on both wheels. Take positions at the patient's side — one at the shoulders and head, one at the hips, and one at the legs. Reach under the patient, cradle his body to you, and upon your signal, all rise and move toward the bed. Remove his robe and slippers.

Note: It is necessary for all three to move on signal; otherwise one may find himself with most of the patient's weight. This could lead to dropping the patient, or producing a serious muscle strain for the one bearing the patient's weight.

See that the patient is lying in good body alignment. Adjust the bed and pillows as the patient may request. Straighten the top bedding. Assemble the bedside stand and call signal within easy reach. Ask if you can do anything else before you leave. Try to let him know approximately when you will return.

Release the brakes. Return it to storage.

Report to the team leader or the nurse in charge that the procedure has been carried out. Also report and record any pertinent changes in the patient's condition, or complaints he may have had, such as discomfort caused by the movement, fatigue, change in color of skin, profuse perspiration or dizziness.

Charting examples:

7:20 A.M. Patient transferred to wheelchair to eat breakfast. Vital signs remained stable. Spirits improved. Ate heartily. J. Jones, LVN

8:05 A.M. Returned to bed in good condition. J. Jones, LVN

OR

7:20 A.M. Patient transferred to wheelchair to eat breakfast. Became pale, weak, and dizzy. Returned to bed stat. Vital signs returned to normal as soon as patient returned to bed. Color improved stat. Episode reported to charge nurse. J. Jones, SN

7:35 A.M. Patient resting comfortably. No apparent discomfort. Color and vital signs good. J. Jones, SN

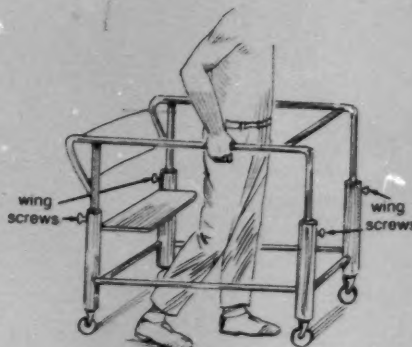
ITEM 7: WHAT IS A WALKER?

Another mechanical aid that provides support for the patient in moving about from place to place is the *walker*. The walker is a tubular metal frame constructed in a rectangular box shape with wheels attached. The preferred model of the walker has a movable swing-up seat and removable back rest that allows for easy entry and exit to and from the frame. It can be used with a seat when the patient becomes tired. The walker should be adjustable in height, for unless the walker is of proper height for the patient, its use is defeated.

The walker is used to provide support and stability for the patient who is learning to walk again. It may be used for any patient who has been confined to bed for a long period of time, and for patients who have had fractures of the hip or of bones in the lower extremity and must restrict weight bearing on the affected part. It is also used to prepare the patient to use crutches or braces.

To use a walker, the patient must be able to bear weight on one foot, to balance in an upright position, and to have the use of his hands and arms. The walker should be adjusted to a height so that the upper rail fits the palm of the patient's hand with his elbow flexed or bent at a 30° angle.

Wing screws —
for adjusting height.



J. In order to use a walker, the patient must be able to do three things. These are:

- (1) _____ (2) _____
(3) _____

K. When using the walker, you noted that the patient's elbows were flexed (or bent) at a 90° angle and were resting on the upper rail of the walker. This would indicate that the height of the walker was too _____.

L. Another patient was observed using a walker with his upper back and shoulders flexed and his arms extended straight down to reach the upper rail. The height of this walker was too _____.

M. The recommended degree of flexion, or bend, of the elbow is _____ when using a walker.

ITEM 8: WALKER PROCEDURAL SKILLS

In the skill laboratory, you should practice the following steps in the procedure of assisting a patient into and out of a walker. Have someone role-play the part of the patient.

Important Steps

1. Obtain a walker from storage.
2. Approach and identify the patient, explain the procedure, and enlist his cooperation.

Key Points

Check walker to see that it is adjustable and has a seat and a back attachment. Take it to the patient's room. Wash your hands.

Most patients seem to accept a walker quite well because it lessens their fear of falling and fatigue, and increases their mobility. It often signifies progress to more independence.

Important Steps

3. Assist the patient to a sitting position.

4. Position the walker at the bedside.

5. Assist the patient into the walker.



6. Assist the patient out of walker.



7. Assist the patient to a comfortable position.

Key Points

If patient is in an adjustable high-low bed, place the bed in low position. Assist the patient to a dangling position at the side of the bed (see "Patient Movement and Ambulation"). Assist him to dress in robe and slippers.

Raise the seat; remove the back support, or move it to one side of the walker, and place the open back end of the walker in front of the patient. Securely hold the walker in place with one hand and use one foot to block one of the rear wheels.

Have the patient grasp the upper frame of the walker on each side and rise to a standing position. Have the patient flex his elbows about 30° and measure the height needed to bring the upper rail of the walker to the level of the palm of his hands. If adjustment is needed, have patient sit down on side of bed, then loosen the screws and bolts on each of the four legs of the walker, and refasten at the adjusted height. Steady the walker with your left hand to prevent it from slipping away from the patient and causing him to fall. Use your left foot in front of the rear wheel to assist in holding the walker steady. After adjustment, have patient stand and step forward into the walker. Lower the seat and replace the back support. Caution the patient to take small steps and to avoid going too fast or bumping into the front frame of the walker.

Have the patient in his walker approach the side of the bed, turning the walker around so that the back end is against the bed or chair. Remove the back rest or move it to one side and swing the seat up out of the way. Hold the walker securely with one hand, use one foot to block one of the rear wheels, and instruct the patient to keep his hands on the upper rail while stepping back one or two steps to the edge of the bed. Have him then reach for the bed with his hand and ease himself to a sitting position. Remove his robe and slippers after pushing the walker to one side. Assist the patient to swing his legs onto the bed.

See that the patient is lying in good body alignment. Adjust the bed and pillows as the patient may request. Straighten the top bedding. Place bedside stand and call signal within easy reach. Ask if there is anything else you can do before leaving. Tell him when you expect to return.

Important Steps

8. Remove the walker.
9. Report and record as appropriate.

Key Points

If patient is to continue using the walker, it may be left at the bedside in an area out of the line of traffic. Otherwise, return it to storage.

Report to the team leader or to the nurse in charge that the procedure was carried out, the way in which the patient tolerated the use of the walker, and changes in his condition, such as those mentioned in the wheelchair procedure.

Charting example:

10:10 A.M. Patient ambulated for first time in walker. Tolerated procedure well. Returned to bed in good condition in 15 minutes. He seems pleased with his progress. J. Jones, SN

ITEM 9: CRUTCH-WALKING

The patient needs many abilities in order to use crutches. For some patients, crutch-walking is a difficult skill that requires much supervision and practice. Crutch-walking is literally learning to walk with your hands. To use crutches, the patient must be able to balance his body in an upright position, have adequate strength in the arm and shoulder muscles to support much of his weight with his hands, have control of hip and knee joints to keep these from buckling under him, and be able to bear partial weight on both legs or full weight on one leg.

The physical preparation of the patient for crutch-walking can be started early, when the patient is still confined to the bed or in a wheelchair. He should be encouraged to perform exercises that will help strengthen the muscles he will use, particularly those of the arm and shoulder. Some of the exercises include: lifting sand bags while lying flat in bed, grasping the head of the bed with his hands and pushing his body down in the bed, and alternately "setting" or contracting the muscles of the arm and leg without moving the joint, and then relaxing. When the patient is able, he should practice using his hands to push himself up to a sitting position in bed. When sitting in a chair or in bed, he should place his hands on the seat and push his body upward so that his buttocks clear the seat. Some of these exercises are illustrated on this page.



Arm exercises



Sitting-up exercises

- N. In crutch-walking, much of the patient's weight is supported by his _____.
- O. It is essential that the patient have at least _____ weight bearing on both legs or _____ weight bearing on one leg in order to learn crutch-walking.
- P. "Set" the muscles in your arm without bending your elbow. Can you feel the muscles contract? _____

ITEM 10: TYPES AND MEASUREMENT OF CRUTCHES

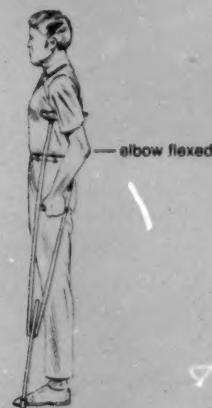
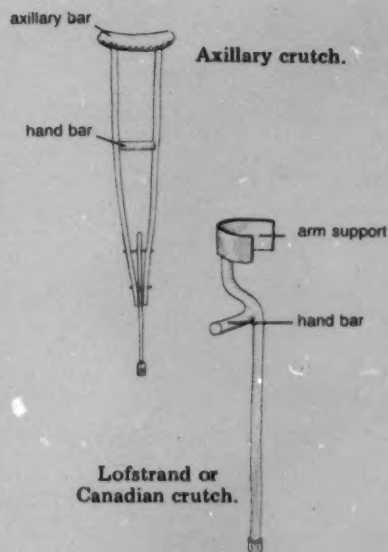
There are many types of crutches. Several are shown here. The most commonly used type of crutch is the first shown; it is adjustable in length, with a movable hand bar, and may be made of wood or aluminum. The crutch should have heavy rubber suction tips to decrease the danger of slipping. The top of the crutch has a cross bar which is called the axillary bar. This may or may not be padded. Some doctors believe that padding reduces the pressure on the rib cage or on the axilla. The pressure caused by bearing the body weight on the axilla, or armpit, may result in weakness of the forearm muscles, wrist, and hand which is called "crutch palsy." Crutch palsy has been known to occur in four hours of leaning on crutches without supporting the body weight by the hands. Some doctors believe that by not padding the axillary bar the patient will be discouraged from leaning on it and bearing his weight from the axilla.

Crutches must be measured and adjusted to the proper length for the individual patient. An easy method of measuring the patient for crutches is to have the patient lie in bed, place a crutch next to him on the bed, and measure from the axilla to a point 6 to 8 inches out from the side of his heel. Adjust the crutches to this length, using the wing nuts and bolts. The hand bar should be the distance from the axilla to the middle of the palm of the hand with the wrist slightly hyperextended and the elbow flexed 30° . Adjust the hand bar as needed. This allows the arms and hands to bear more of the body weight and to lift the body slightly by straightening the arms.

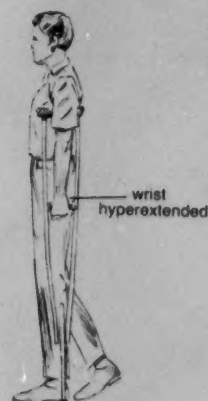
Properly fitted crutches will allow you to pass two fingers between the axillary bar and the axilla when the patient is in a standing position. The elbow should be bent about 30° , with the hand gripping the hand bar and the axillary bar resting firmly against the patient's chest wall.

The principles of crutch-walking include the following:

- (a) Head is held up and eyes look ahead, as in normal walking.
- (b) The crutches are placed slightly ahead of the patient's feet and to the side of them.
- (c) The hands, not the axillae, are used to support the body weight.
- (d) The back should be kept in straight alignment and the patient should bend at the ankles or at the hips.



Crutch-walking — standing position.



Crutch-walking — weight-bearing position.

- (e) A smooth, easy rhythm should be achieved in shifting the weight from the crutches to the good or unaffected leg and to crutches again.
- (f) The crutches should be of proper length and be equipped with heavy rubber suction tips to prevent slipping.
- (g) The gait used will depend on the weight-bearing status of the lower extremities and the patient's ability.

Q. You should be able to answer these questions about crutches.

- (1) Why is the elbow flexed about 30° when measuring or fitting crutches?
- (2) In the figures shown in the text, in which position is the elbow extended? _____
In which position is the wrist hyperextended? _____
- (3) In crutch-walking, the patient should keep his back straight and bend from the _____ or _____.
- (4) The patient should look _____ when walking on crutches.

ITEM 11: GAITS USED IN CRUTCH-WALKING

The type of gait that the patient will use in crutch-walking depends upon the amount of weight he is able to support with one or both legs. The three-point gait is used more often in temporary crutch situations by patients with one affected leg, such as those with a fracture of the bones of one leg, knee or hip surgery, or paralysis of one leg. The four-point and two-point gaits are used by patients who can bear partial weight on both legs, e.g., those with cerebral palsy or arthritis.

R. In the skill laboratory, measure a pair of crutches and adjust them to the length you need for a good fit. Then practice the three-point, four-point, and two-point gaits of crutch-walking until you are familiar with each one. Remember to keep your head up, look forward (not down), keep your back straight, and bear your weight on your hands, not on the armpits.

(1) Three-point Gait.

Full weight bearing on one leg and partial or no weight bearing on the other.

Sequence of the gait: advance with both crutches forward, shift weight to crutches, then advance the unaffected leg and shift the weight onto it. (The affected leg may be advanced with the crutches or with the unaffected leg.)

Advantage of the three-point gait: it allows the affected leg to be partially or completely non-weight bearing.

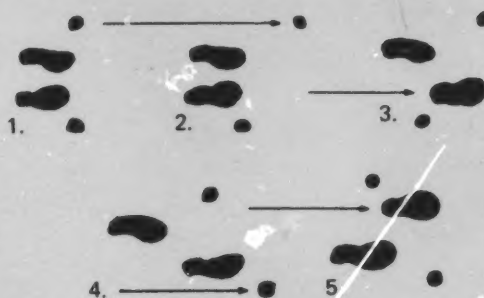


(2) Four-point Gait.

Partial weight bearing on both legs is necessary.

Sequence of the gait: (1) standing position, (2) advance the *left crutch*, (3) then advance the *right foot*, (4) the *right crutch*, and then (5) the *left foot*.

Advantage of the four-point gait: it is the most stable.

**(3) Two-point Gait.**

Partial weight bearing on both legs is necessary.

Sequence of the gait: (1) standing position, (2) advance *left crutch and right foot*, and (3) then the *right crutch and the left foot*.

Advantages of the two-point gait: it is a faster version of the four-point gait and is a more normal walking pattern with opposing arm and leg traveling forward at the same time.



Many patients are taught a swing-to and a swing-through gait for rapid walking. However, you are not required to learn this gait in this lesson.

ITEM 12: ASSISTING WITH THE USE OF CRUTCHES

In the skill laboratory, you will now practice the steps of the procedure to assist the patient with crutch-walking. Please have another person play the role of the patient.

Important Steps

1. Wash hands, approach and identify the patient, explain the procedure, and enlist his cooperation.
2. Obtain the crutches.

Key Points

The patient may be apprehensive about using crutches, have a fear of falling, or doubt his ability to learn to use crutches. Accept his right to have these feelings and explain the manner in which you will demonstrate the use of crutches, assist him to use them, and stay with him as he practices. Encourage the patient to regard the use of crutches as a sign of progress toward more independence.

Secure crutches from the storage or supply room. Select the crutch size most appropriate for the patient: child, youth, adult, or tall adult size. Make sure the crutches are an adjustable type with a good pair of rubber suction tips. Worn tips should be replaced with new ones to prevent danger of slipping. Take the crutches to the patient's bedside. Wash your hands.

Important Steps

3. Measure patient and adjust crutches to proper length.
4. Prepare the patient.
5. Position the patient.
6. Demonstrate the crutch-walking gait the patient is to use.
7. Assist the patient to use the crutches and learn the crutch gait.
8. Assist the patient to return to bed.

Key Points

Have patient lie supine in bed in good body alignment. Measure from the patient's axilla to a point 6 to 8 inches from the side of his heel. Loosen wing screws and bolts of the crutches, adjust length, and refasten. Measure the distance from his axilla to the palm of the hand with his elbow flexed at a 30° angle and the wrist slightly hyperextended, and adjust the hand bar. It is better to have the crutches an inch or so too short than to have them too long; this insures weight bearing on the hands rather than on the axillae.

Assist the patient to dress in pajamas, robe, and shoes, or in street clothing. Pajamas are preferred for the beginner patient because they cover the legs, prevent exposure in case of a fall, and may be grasped at the waist by the nurse worker to guide or give support. When possible, use a walking belt or a folded drawsheet around the waist of the beginner patient to provide support and help prevent him from falling.

If patient is in an adjustable high-low bed, place the bed in the low position. Assist the patient to sit at the side of the bed in a dangling feet position. To dangle, see lesson on "Patient Movement and Ambulation."

The demonstration and explanation will show the patient how to use the crutches to walk. He will be better able to see the demonstration in the sitting position and will have more support of his body than if the demonstration were conducted when the patient was standing.

Help the patient to stand at the side of the bed, hand him both crutches, check for the fit of the crutches, and have him balance on them while standing. (If the patient is unsteady in balancing, transfer him to a wheelchair and take him to an area where he can stand against a wall to balance and get the feel of the crutches.) When the patient can balance, repeat the steps of the crutch gait and have the patient perform them.

When the patient is learning crutch-walking, you should walk behind him and hold the walking belt, the pajama waistband, or the ties of the drawsheet in order to provide support in case the patient becomes unsteady or begins to fall. Have another person walk at the side or in front of the beginner patient to help give support when needed.

Keep practice sessions short to avoid strain and muscle fatigue. Have patient walk, using his crutches, to the side of the bed and turn so that his back is to the bed. Have him hand you one crutch or set it aside, and with the free hand

Important Steps

9. Provide for the patient's comfort.
10. Report and record as appropriate.

Some patients will need to learn how to go up and down stairs using crutches. Although you will not be required to know this information for the performance test, you will find it included in the workbook as information for enrichment.

The procedure for assisting the patient in and out of bed with crutches is easily adapted to instructing the patient in how to sit in and get out of a chair with crutches. This is shown in the accompanying sketches.

ITEM 13: WHAT ARE BRACES?

Braces provide specific support for weakened muscles and joints or provide immobilization of the injured part. Braces are ordered by the physician, and the cost of the brace is charged to the patient. Almost all braces are custom-made and fitted to the individual patient. The most common types of braces are those for the neck, the back, the arm, and the leg.

The well-made and well-fitted brace should not cause pressure at any point on the patient's body. However, it requires time for the patient to adapt to the support of the brace, and even the best fitting brace may cause slight pressure or soreness on the bony prominences or at the upper or lower cuffs of the brace. When there is

Key Points

reach down for the side of the bed. He will then set the other crutch aside and lower himself to a sitting position. If patient is able to use crutches without assistance, place them where he can reach them later. Assist the patient to remove his robe and slippers, remove the walking belt or drawsheet if used, and help to swing his legs onto the bed.

Adjust the bed and pillows as the patient desires. Straighten the top bedding. Place bedside stand and call signal within easy reach.

Report to the team leader or the nurse in charge that the procedure has been carried out. Report and record any change in the patient's condition as suggested for other parts of this lesson, including the patient's tolerance for crutch-walking and his progress in learning to use crutches. Charting example:

3:10 P.M. Ambulated first time on crutches. Walked easily in his room. Became tired quickly. Returned to bed promptly. Vital signs remained stable. He is cooperative and eager to manage his crutches.

J. Jones, SN



Sitting down in chair.



Getting up from chair.

Important Steps

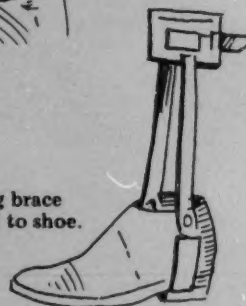
irritation at these areas, thin layers of sponge rubber or folded layers of soft linen may be used to pad the area. Cotton batting should not be used because it has a tendency to become compacted and uneven. The most common cause of poorly fitting braces is putting them on wrong. No brace will fit properly or be effective if it is put on backwards or upside-down.

There are many types of braces, and it would be impossible to describe them all. Most are made of various combinations of metal, leather, and cloth. Some braces, especially those for the arm or leg, have a hinge to allow movement at the joint. The hinges should be oiled every six weeks, and the metal lubricated to prevent rust. Lubricate hinges slightly with cup grease or silicone grease. The use of vaseline or light household oils is not advised because they are too thin, tend to run, and could stain clothing. Cloth braces should be hand-washed, and the leather portions cleaned periodically. Almost all leg braces are attached to the patient's shoe.

Note: It is preferable to have the lubrication done by the bracer (orthotist).

Key Points

Back brace.



Short leg brace attached to shoe.

S. After reading this section on braces, you should be able to answer the following questions.

- (1) A brace is used to provide _____ or _____ for weakened muscles or joints.
- (2) The most frequent causes of poor fitting braces is putting the brace on _____ or _____.
- (3) The moving metal parts and hinges of braces should be oiled every _____ weeks.
- (4) The patient who is wearing a brace may develop pressure areas or soreness over _____ or _____.

ITEM 14: ASSISTING WITH BACK BRACE

In the skill laboratory, you are to practice the procedure of assisting to put on a back brace. Have another person play the part of the patient for your practice period.

Important Steps

1. Approach and identify the patient, explain the procedure, and enlist his cooperation.
2. Obtain the back brace.

Key Points

The patient is generally cooperative because he was fitted for the brace and had to buy it. He may resist wearing the brace if it causes pain, pressure, or more discomfort.

Since it is the patient's property, it is generally kept at the bedside or with his belongings. Wash your hands.

Important Steps

3. Position the patient.
4. Put the back brace on the patient.
5. Check for pressure points caused by the brace.
6. Assist the patient as needed for his comfort and safety.
7. Remove the back brace from the patient.
8. Store the brace in the proper place.
9. Report and record as appropriate.

Key Points

Have the patient lying flat (supine position) in bed. Assist the patient to move to the proximal, or near, side of the bed by using good body alignment and movement.

Keep the patient's back and neck in straight alignment and roll his body toward you. Place the top of the brace over the upper back and the bottom cuff or edge of the brace over the hips and lower back. The brace should slip readily into place and follow the contour of the patient's back. Gently roll the patient and his brace from the side position to his back. Reach under the proximal, or near, side of the patient and draw the straps of the brace through. Bring over the straps from the distal, or far, side of the brace and fasten together snugly in the front.

With the brace snugly fastened, assist the patient to a dangling or sitting position at the side of the bed. Check for possible pressure areas over the bony prominences of the hips, over the ribs, over the breastbone or sternum, and at the upper and lower edges of the brace. You should be able to slip your finger between the brace and the flesh at these points. If the brace fits properly and still causes some soreness in these areas, pad the area with sponge rubber or soft cloth.

Help the patient to put on robe and slippers or to dress in street clothing. Generally, the patient may walk or sit in a chair with his back brace on. Some patients who have had recent surgery on the spine may begin wearing a brace while still on bedrest and would not be allowed in a sitting position to check for pressure areas.

Assist the patient to lie flat in bed. Unfasten the straps in the front of the brace and push the proximal, or near, side straps down close to the patient's side. Keep the patient's back and neck in straight alignment and roll his body toward you. Grasp the brace and remove. Return the patient to his original position.

Usually the brace will be kept at the patient's bedside. Inspect the brace and clean if necessary before storing it.

Report to the team leader or the nurse in charge that the procedure has been carried out. Also report and record any complaints of discomfort caused by the brace. Any area of pressure, redness, or irritation of the skin should be described fully. Charting example:

6:10 P.M. Back brace applied for first time. Brace fits well, no pressure areas noted. Patient

Important Steps**Key Points**

remained in chair throughout evening meal. In good spirits. J. Jones, SN

or

6:10 P.M. Back brace applied for first time. Brace fits well except for excessive rubbing over right iliac crest. Area padded with foam rubber pad with no relief. Brace removed. Reported to doctor. J. Jones, SN

ITEM 15: ASSISTING WITH LONG LEG BRACE (AK, ABOVE THE KNEE)

A long leg brace, one that extends from the foot to the upper thigh, is also put on the patient while he is lying in bed. For the post-test on this lesson, you will not be required to demonstrate assisting the patient to put on a long leg brace.

ITEM 16: ASSISTING WITH SHORT LEG BRACE (BK, BELOW THE KNEE)

You should now practice assisting the patient to put on a short leg brace, if one is available for your use.

Important Steps**Key Points**

1. Approach and identify the patient, explain the procedure, and enlist his cooperation. Wash hands.

Some patients will object to wearing leg braces because of the weight of the brace and the strain on muscles that are weak or in poor alignment. However, most leg braces should be worn consistently for support or immobilization.

2. Obtain the brace.

The brace is made and fitted for the patient; as his property, it would normally be kept at his bedside or with his belongings. Check to see that it is clean and in good working order.

3. Position the patient.

Assist the patient to a dangling or sitting position at the side of the bed. Most short leg braces are attached to a shoe and are easier to put on in a sitting position.

4. Put the leg brace on the patient.

Loosen the laces of the shoe if it is a laced type. Make sure the cuff of the brace is untied or unfastened. Slip the patient's foot (of the affected leg) into the shoe attached to the brace. Make sure the toes are not curled under the foot. Tie the laces of the shoe. Slip the upper cuff of the brace around the calf of the affected leg and tie or fasten snugly. Do not fasten so tightly that it interferes with the blood circulation.

5. Check the brace for pressure areas.

Have the patient stand at the bedside and check the areas around the upper cuff of the brace, the bony prominences just below the knee, and around the ankle. You should be able to slip your finger between the brace and the flesh underneath it. Check the function of the hinge

Important Steps**Key Points**

6. Provide for the patient's comfort.

at the ankle (if the brace has one) by having the patient take one step on it. It should keep the toe of the shoe slightly upward to prevent the toe from dragging. Oil, if necessary.

7. Assist the patient to remove the short leg brace.

Assist the patient to put on his robe and other slipper or to dress in street clothing. Most patients are permitted to be up in a chair or walk with a brace on. Stay near patient to give assistance if this is his first trial.

8. Report and record as appropriate.

Have the patient sit at the side of his bed. Untie or unfasten the upper cuff of the brace and untie the laces of the shoe. Slip the shoe and the brace off the affected leg. Assist the patient to swing legs onto the bed, to undress, and to put on pajamas or gown. Leave bedside stand and call signal within easy reach. Ask if there is anything else you can do for him. Tell him when you expect to return.

Report to the team leader or the nurse in charge that the procedure has been carried out. Also, report and record any complaints the patient may have of discomfort, and be sure to describe any areas of pressure or irritation caused by the brace. Charting example:

4:30 P.M. Applied short leg brace to left leg for first time. Tolerated well. No pressure areas observed or reported. J. Jones, SN

6 P.M. Short leg brace removed. Tolerated well. J. Jones, SN

ITEM 17: ASSISTING WITH THE NECK BRACE

Neck braces are used frequently to support and to immobilize the neck following injury. Generally, the neck brace is applied while the patient is in a sitting position. It is slipped under the chin and fastened at the back of the neck. You will not be expected to demonstrate applying a neck brace in the performance test for this lesson.

ITEM 18: CONCLUSION OF THE LESSON

You have now completed the lesson on assisting the patient to use mechanical aids for ambulation and movement. When you have had sufficient practice in using these aids correctly, make an appointment with your instructor to take the post-test.

V. ADDITIONAL INFORMATION FOR ENRICHMENT

Those of you who have a special interest or desire to learn more about the use of mechanical aids to assist the patient in ambulation and movement may wish to read further. Some special items are included in this section, but you will not be required to learn them or to demonstrate the skills in the performance test for this lesson.

ITEM 19: ALTERNATIVE METHOD OF TRANSFERRING TO WHEELCHAIR

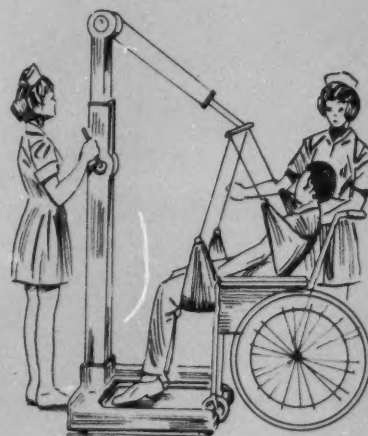
There are several different ways of transferring the patient who cannot stand from the bed to the wheelchair. Depending on the availability of helpers and the condition of the patient, the helpless patient could be transferred to a wheelchair by two people or with the use of a mechanical lifter, such as the Hoyer lift.

Two workers can transfer the helpless patient from the bed to a wheelchair by following these steps: (1) place the wheelchair at a right angle to the bed and set the brakes; (2) assist the patient to a sitting position on the bed; (3) turn the patient to a position crosswise on the bed, with his back to the side of the bed where the wheelchair is positioned and supported by one of the workers; (4) with one worker on each side of the patient, each should slip an arm under the patient's arm, clasp his wrist, and use the other hand to support the patient's knees; (5) both workers, on signal, lift the patient backward into the seat of the wheelchair. To return the patient to bed it is recommended that the three-man carry be used, or a mechanical lifter.



Transfer of patient from bed . . .

When using the mechanical lifter or Hoyer lift, two workers are required to transfer the patient safely from the bed to a wheelchair. One worker guides the patient in the sling and the other worker rolls the lifter. The procedure is carried out as follows: (1) position the wheelchair with enough space to maneuver the lifter and set the brakes; (2) place the mechanical lifter with the base wheels under the bed and at right angles to the bed, adjust the level of the lifting bar over the bed, and close the hydraulic pressure valve; (3) with a worker on each side of the bed, pass a sling strap under the patient's thighs and another under his back below the level of the axillae and fasten the strap to the corresponding hooks on the lifting bar; (4) the worker operating the lifter then releases the hydraulic pressure valve and pumps the handle to raise the lifting bar with the patient in the sling straps so that his body clears the bed; (5) close the hydraulic pressure valve; (6) roll the lifter to the wheel chair while the other worker guides the patient in the sling, and place the patient in a sitting position over the seat of the wheelchair; (7) release the hydraulic pressure valve to lower the patient in the sling to the seat, and (8) unhook the straps of the sling and



to a wheelchair using a
mechanical lift.

remove from under the patient. To return the patient to the bed, reverse the procedure.

Note: Support head in transfer procedure as needed.

ITEM 20: SPECIAL SKILLS FOR CRUTCH-WALKING

Patients who use crutches to walk must learn the skills of opening doors and going up or down steps. To open a door, the patient on crutches approaches the door, reaches out with one hand to unlatch the door, and pushes it open. He then holds the door open with the tip of his crutch and proceeds through the door.



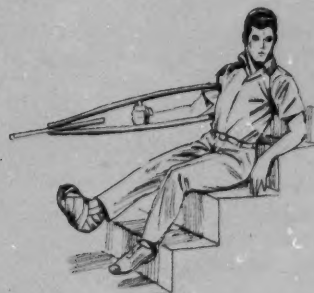
"Angels" go up . . .

The rule to remember when instructing the patient in going up or down steps is "angels go up and devils go down." When going up steps, the good or unaffected, leg is advanced to the next step because it will support the weight. It is followed by the crutches and the affected leg. In going down steps, the crutches and the affected leg lead off to the next step as the good leg again supports the weight until it can be shifted to the crutches. In going up or down a flight of stairs, the patient uses only one crutch, but takes the other along, and relies on the handrail or bannister for support. Caution the patient to take both crutches with him — he will need them after negotiating the stairs.



"devils" go down.

The unsteady patient or the one who may be too weak to lift his body weight up or down steps on crutches could manage steps in this manner, if it were necessary. But don't forget the crutches.



Even this works!

ITEM 21: USE OF CANE

Canes are another form of mechanical aid for patient ambulation. Most people need little or no instruction in how to use a cane. However, the cane should be of proper height for the patient; with his elbow flexed at a 30° angle, the curve or handle of the cane should fit the palm of his hand and extend to the floor at a point about 6 inches out from his foot. The cane should have a good rubber suction tip to prevent slipping. There are many varieties such as crab canes, tripod canes, and other types.

ITEM 22: SUGGESTED READING

You may wish to read further on mechanical aids. Some of the following articles may be helpful to you.

Flaherty, Patricia Toohmey, *Braces: A Primer for Nurses*. Rehabilitation Pub. No. 719, Minneapolis: American Rehabilitation Foundation, 1968.

Tips in Choosing and Using Crutches, Canes, and Walkers, *Patient Care*. 2:16, October 1968.

Wheelchair Rx: Fit the Chair to the Patient, *Geriatrics*. 23:72, June 1968.

WORKBOOK ANSWER SHEET

- | | | |
|---------|-----------------|--|
| Item 1 | P. 281 | A. Temporary or a permanent
B. Temporary |
| Item 2 | P. 283 | C. Wheelchair |
| | P. 283 | D. Wheelchair or walker — to provide support. |
| Item 3 | P. 283 | E. (1) sit upright
(2) support his neck and head
(3) use at least one of his arms |
| Item 7 | P. 289 | J. (1) balance in upright position
(2) bear weight on one foot
(3) have use of arms and hands
K. High
L. Low
M. 30° |
| Item 9 | P. 291 | N. Hands
O. Partial; full
P. Yes |
| Item 10 | P. 292 | Q. (1) when arm is straightened using the crutch, it will lift the body slightly
(2) weight-bearing; weight-bearing
(3) ankles; hips
(4) straight ahead |
| Item 13 | PP. 296 and 297 | S. (1) support; immobilization
(2) backwards; upside down
(3) six
(4) bony prominences; around edges or cuffs of the brace |

PERFORMANCE TEST

In the skill laboratory, your instructor will ask you to perform four out of the seven activities listed below without reference to any source material. For several of the activities you will need another person to take the part of the patient.

1. Given a patient who can stand on one or both feet, you will transfer the patient from the bed to a wheelchair using good body alignment and movement, stabilizing the wheelchair so that it does not move or slip during the procedure.
2. Given a patient who cannot stand, you will obtain assistance from other workers to transfer the patient from the bed to a wheelchair, using good body alignment and movement to prevent strain, and principles of balance and lifting to prevent the patient from slipping or falling.
3. Given a patient who will use the wheelchair himself as a method of locomotion, you will demonstrate and explain the wheelchair technique for using the brakes, using the foot rest pedals, propelling the chair, and making a turn.
4. Given a patient in bed who needs support while walking, you will adjust a walker to the proper height and transfer the patient into the walker in a safe manner to prevent slipping or falling.
5. Given a patient who needs the support of crutches for walking, you will measure the crutches to the proper length needed by the patient, adjust them to this length, and adjust the hand-bar.
6. Given a patient who is beginning to learn crutch-walking, you will demonstrate one of the following gaits and state the weight-bearing condition related to that gait: (a) four-point gait, (b) two-point gait, or (c) three-point gait.
7. Given a patient who needs a brace for support of a specific portion of the body, you will apply one of the following braces and state the possible areas of pressure that could result from wearing the brace.
 - a. Back brace
 - b. Long leg brace
 - c. Short leg brace
 - d. Neck brace

PERFORMANCE CHECKLIST**MECHANICAL AIDS FOR AMBULATION AND MOVEMENT****TRANSFER OF PATIENT FROM BED TO WHEELCHAIR**

1. Obtain proper equipment.
2. Check equipment for proper working condition.
 - A. Brakes.
 - B. Wheels and tires.
 - C. Upholstery.
3. Wash hands.
4. Identify patient.
5. Explain procedure to patient.
6. Obtain assistance if required.
7. Lower bed to working height.
8. Assist patient to dangling feet position, observing the principles of good body alignment.
9. Position wheelchair appropriately.
10. Prepare wheelchair for occupancy, with foot pegs raised and brakes set.
11. Assist patient to stand, observing the principles of good body alignment.

INSTRUCTING PATIENT IN THE PROPER TECHNIQUES OF USING WHEELCHAIR

1. Obtain proper equipment.
2. Check the equipment for proper working condition.
 - A. Brakes.
 - B. Wheels and tires.
 - C. Upholstery.
3. Wash hands
4. Identify patient.
5. Demonstrate and describe the correct techniques for using the wheelchair to the patient.
 - A. Proper use of brakes, setting and releasing.
 - B. Positioning the footrest.
 - C. Propelling the chair in a straight line.
 - D. Turning corners.
 - E. Passing through an ordinary doorway or one equipped with an automatic closing device.

6. Provide patient with an opportunity to practice techniques of propelling wheelchair under supervision.
7. Encourage patient to utilize proper techniques in manipulating wheelchair.
8. Chart the procedure.

*TRANSFERRING THE PATIENT FROM THE BED TO THE WALKER –
ADJUSTMENT OF THE WALKER*

1. Obtain proper equipment.
2. Check equipment for proper working condition.
 - A. Wheels and tires.
 - B. Upholstery.
3. Wash hands.
4. Identify patient.
5. Explain procedure.
6. Obtain assistance if required.
7. Adjust position of bed if required.
8. Position walker at bedside.
9. Prepare walker for occupancy.
 - A. Raise the seat.
 - B. Remove the back support.
10. Secure walker in place with one hand and use a foot to block a rear wheel.
11. Assist patient to dangling feet position, observing principles of good body alignment.
12. Assist patient to stand, observing the principles of good body alignment.
13. Position patient in walker.
14. Check and adjust height of walker as required.
 - A. Optimal patient position is to have the elbows flexed approximately 30 degrees.
15. Lower seat and replace back support in walker.
16. Caution patient to take small steps and avoid going too fast.
17. Provide for patient's comfort if necessary.
18. Tell patient time of return.
19. Chart procedure.

*ADJUSTING CRUTCHES TO THE PROPER LENGTH AS REQUIRED
BY THE PATIENT*

1. Obtain proper equipment.
2. Check equipment for proper working condition.
 - A. No splinters or breaks or bends.
 - B. Crutch tip in good condition.
 - C. Axillary pad bar added if required.
3. Wash hands.
4. Identify patient.
5. Explain procedure.
6. Request patient to lie flat on bed.
7. Measure length of crutch required.
 - A. The crutch tip should be approximately 6 to 8 inches from the side of the heel.
 - B. There should be approximately two fingers distance between the axillary bar and the axilla.
 - C. The elbows should be flexed approximately 30 degrees.
8. Adjust position of hand bar and height of shaft as required.
9. Tell patient time of return for crutch-walking lesson.
10. Chart procedure.

CRUTCH-WALKING – GAIT USED IN CRUTCH-WALKING

1. Identify two, three and four point gait.
2. Perform three point gait.
 - A. Conditions of use — full weight bearing on one leg, partial or no weight bearing on the other.
3. Perform four point gait.
 - A. Conditions for use — partial weight bearing on both legs.
4. Perform two point gait.
 - A. Conditions for use — partial weight bearing on both legs.

APPLYING A BRACE

1. Wash hands.
2. Identify patient.
3. Review procedure with patient.
4. Obtain proper brace.
5. Position patient for procedure.
6. Apply brace correctly.
 - A. Observe principles of body alignment for manipulating patient.
 - B. Prepare brace for application.
 - C. Position brace on patient's body.
 - D. Secure brace appropriately.
7. Adjust brace for correct pressure.
8. Check for pressure points.
9. Recheck position and function of brace.
10. Provide for patient's comfort, i.e., assist in dressing or in moving to a chair.
11. Report and record procedure appropriately.

Unit 16

POSITIONING THE BED PATIENT

I. DIRECTIONS FOR THE STUDENT

You will study this lesson using the workbook as your guide. You will need to practice the procedure of positioning the patient in your skill laboratory, with a fellow student or another person as the patient. After you complete the lesson and practice the procedure to gain some skill, you should arrange with your instructor to take the performance test for this lesson.

You will need the following items for your study and practice to gain skill in positioning the patient.

1. This programmed instruction material
2. A pen or pencil
3. Pillows — at least 3
4. Footboard
5. Overbed cradle
6. A bath-blanket, sheet, or bath-towel
7. Sandbags
8. A synthetic lamb's wool pad (Decubinox) or foam rubber pad.
9. Protective heel (Posey)
10. Hand rolls
11. Alternating air-pressure pad and motor, if available.

Please read the following paragraphs carefully. They explain exactly what you will be expected to know and how you will be expected to position the patient in various ways. If you feel that you already have the necessary skills without studying the lesson, discuss with your instructor the possibility of advancing directly to the performance test. All students are expected to demonstrate accurately the skill of positioning the patient in bed to provide comfort and support, and to reduce pressure.

II. GENERAL PERFORMANCE OBJECTIVE

Upon completing this lesson, you will be able to position the bed patient in good body alignment for his health and comfort, using various aids for support or immobilization of various body parts, as well as protective aids to reduce pressure on skin areas.

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III. SPECIFIC PERFORMANCE OBJECTIVES

After you have completed this lesson, you will be able to:

1. Provide support for or immobilize various parts of the body with the use of aids such as pillows, footboards, sandbags, hand rolls, and trochanter rolls.

2. Reduce and prevent formation of pressure areas through the use of protective aids such as pillows, synthetic lamb's wool pads (Decubinox), foam-rubber pads, overbed cradle, protective heel (Posey), or flotation as with the alternating air-pressure mattress pad.
3. Place the helpless bed patient in the basic supine position according to the principles of positioning, and in the variations of this position which include Fowler's, semi-Fowler's, and Trendelenburg's.
4. Place the helpless bed patient in the basic lateral position according to the principles of positioning, and in the Sims variation of this position.
5. Place the helpless bed patient in the basic prone position according to the principles of positioning.
6. Move the bed patient toward the head of the bed by using good body movements to prevent strain or injury to the patient or yourself.

IV. VOCABULARY

Some of the words used in this lesson may be new or unfamiliar to you. These have been listed below with their meanings. You should go over this list several times and when you see the word used in the lesson, refer to this section unless you are sure of its meaning.

- alternating air-pressure pad** — a plastic pad with vertical air cells which alternately fill slowly with air, then deflate.
- contracture** — the permanent contraction of a muscle due to spasm or paralysis that leads to "freezing," or immobilization, of the affected joint(s).
- decubitus (pl. decubiti)** — a bedsore caused by pressure.
- deformity** — an unnatural alteration; a misshapen or disfigured part of the body.
- femur** — the thigh bone, the longest and strongest bone in the body, extending from the hip to the knee.
- flotation** — the state of floating or the act of being buoyant.
- footboard** — a board placed vertically at the end of the mattress to support the sole of the foot and to help prevent foot drop.
- foot drop** — the hyperextension of the foot with permanent contracture of the calf muscles and tendons.
- Fowler's position** — a sitting position in bed; backrest raised to a 45° angle, knees kept flat.
- Semi-Fowler's position**, the knees are elevated to 15°.
- fracture** — a broken bone.
- intravenous (IV)** — within or into the vein, such as injection of fluids, or puncture to obtain blood specimens.
- overbed cradle** — a device made of metal or wood placed over the patient's body or lower extremities to keep the top bed covers from lying on the patient.
- paralysis** — the loss of sensation or voluntary muscle movement in a part of the body.
- pressure** — the force caused by the weight of a body or object in contact with another body or object.
- prone** — lying on stomach, face downward.
- sacrum** — the flat triangular bone at the base of the vertebrae; it is composed of five fused vertebrae.
- Sims' position** — lying on one side with uppermost leg moderately flexed so it does not rest on the lower leg.
- supine position** — lying on the back with face upward; also referred to as dorsal recumbent position.
- trochanter roll** — a cylindrical cloth roll used to support the lateral hip-joint or trochanter of the femur.

V. KNOWLEDGE BASIC TO POSITIONING THE PATIENT

ITEM 1: WHY IS POSITIONING IMPORTANT?

One of the basic skills that nursing workers perform most frequently is that of changing the patient's position. Any position, even the most comfortable one, will become unbearable after a period of time. Whereas the healthy person has the ability to assume any of a great variety of positions, the sick person may be limited by his disease, injury, or his helplessness to move about. It is thus the responsibility of the nursing worker to position the patient and then to change his position frequently. Changing the patient's position accomplishes four things: (a) it contributes to the patient's comfort; (b) it relieves pressure on various parts of the body; (c) it helps prevent the formation of contractures or deformities; and (d) it improves circulation.

In this lesson, you will learn how proper body alignment of the patient contributes to his comfort and helps prevent decubiti and contractures from occurring. You will be introduced to the various aids that you can use to support the body part in good alignment or to immobilize a part when it is necessary to limit its movement. The importance of reducing pressure on parts of the body and preventing the formation of pressure areas will become an old familiar tune to you as it is emphasized over and over again.

A. Three reasons for changing the position of the patient are:

- (1) _____ (2) _____
 (3) _____

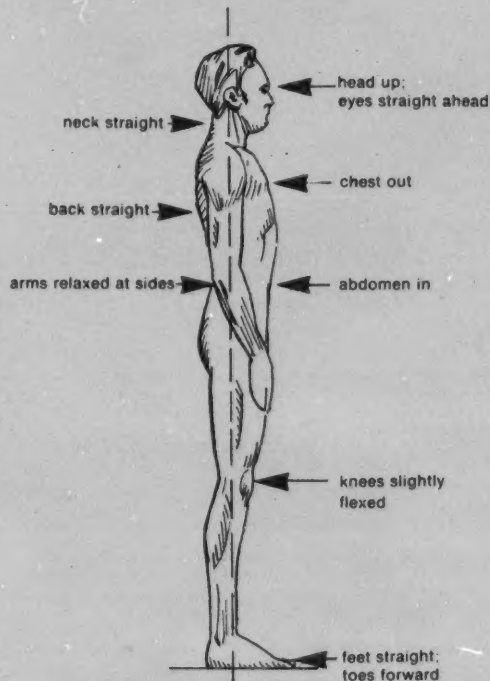
B. When the bed patient is positioned by the nurse, it is necessary to maintain _____

C. The patient may be limited in his ability to change his position due to his _____ or his _____.

ITEM 2: BODY ALIGNMENT

Before we discuss the subject of how to turn and position the bed patient, we will review body alignment briefly. You may remember that alignment refers to the relationship of the movable segments of the body to each other. Good alignment is achieved when there is no undue stress placed on the muscles or skeleton.

The checkpoints of good body alignment are shown in the accompanying sketch. Head up; eyes straight ahead. Neck and back straight. Arms relaxed at sides. Chest out. Abdomen in. Knees slightly flexed. Feet straight, toes pointing forward.



Good body alignment.

PRINCIPLE I. GOOD BODY ALIGNMENT OF THE PATIENT IS MAINTAINED AT ALL TIMES.

Good body alignment of the patient should be maintained from side to side (*laterally*) as well as from front to back (*anterior-posterior*). Examples of poor alignment of the bed patient are shown in the adjoining figures. In the first, the patient's neck and back are flexed so that his chest expansion is reduced in breathing, and his feet are hyperextended, which may lead to the contracture of "foot drop" and interfere with later ambulation, or make ambulation impossible.



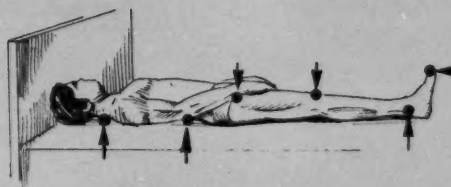
Poor body alignment:
neck and back flexed,
feet hyperextended.

The second sketch shows the patient lying on his arm while on his side. The blood circulation is impaired in that arm. The other arm and leg are lying unsupported behind the patient, causing pulling strain on the shoulder joint, and inward rotation (turning) of the hip joint. The strain produced on the muscles makes this position very uncomfortable for the patient.



Poor body alignment:
patient lying on his
arm, other arm
unsupported.

When the patient is in a supine (lying on his back) position, the pull and weight of his extended arms and legs cause strain on the muscles of the back, the abdomen, and the extremities themselves. *Muscle strain* in the supine position is most commonly felt in the *neck*, the *small of the back*, the *elbow*, *wrist*, *knee*, and the *foot*. These areas are shown in the next illustration. Even the top covers of the bed put strain on the foot and toes of the patient when bedding is tucked in tightly, or when it is heavy because of blankets, or when the patient is weak and unable to move by himself. Although modern mattresses used in hospitals may reduce the strain felt in the small of the back, some patients will still experience discomfort in this area.



Supine Position:
points of muscle
strain.

D. The relationship of body segments to one another is called: _____

E. The first principle of patient positioning is: _____

F. The discomfort felt by the patient when lying in one position for a long period of time is the result of: _____

G. Name four of the areas where discomfort may be felt as a result of positioning of the body.

(1) _____ (2) _____

(3) _____ (4) _____

ITEM 3: SUPPORTIVE AIDS (PILLOW)

The patient's body alignment can be maintained and his discomfort from muscle strain can be relieved by your use of *supportive aids*. Pillows are most commonly used to support various parts of the body because they are soft and thus help reduce pressure; they can be folded over or rolled; and they can also be tucked firmly against the body to maintain its position. The footboard, sandbags, hand rolls, and trochanter rolls are also used to keep the body in alignment, to provide support for body parts, or to restrict movement of certain parts.



Pillow support of back.

Let us look at some of the ways that pillows may be used to support the patient's body. The helpless or weak patient who is turned onto his side may be unable to stay in this position, and tends to roll onto his back again. A pillow placed lengthwise along the patient's back with one edge tucked under his side, the rest of the pillow rolled under (toward the surface of the bed), and tucked firmly against the back, will support the patient as he leans against it. A pillow may also be used along the patient's abdomen when he is in Sims' position to prevent strain of sagging abdominal muscles. In the lateral, or Sims' position, a pillow placed between the patient's knees helps reduce pressure on the knee joints and keeps the hip joint from rotating inward.



Pillow support of knee.

Pillows are used to support the neck, and should be placed *under the patient's head and shoulders* to prevent flexion of the neck that interferes with breathing and with swallowing. Strain on the muscles in the small of the back can be reduced by placing a small pillow or folded towel under the curve of the back. *Avoid hyperextending the back.* Hyperextension of the back causes strain on the abdominal muscles and some compression of the large blood vessels in the torso (trunk). Instead of using a pillow, which may be too large or bulky, it would be better to turn the patient to another position, if his condition permits.



Pillow support with IV running.

You will often find it necessary to support the patient's upper extremities. When a patient's arm is immobilized because of an IV running in a vein or a cast applied for a fracture, the pulling strain on the shoulder muscles can be relieved with a folded towel placed under the upper arm and a pillow placed to support the forearm and hand. Patients who are totally helpless and emphysema heart patients who must avoid all exertion should have their arms supported by pillows whenever they are in a sitting position. The positioning of pillows used to support the arm is shown.



Pillow support of arms for helpless or heart patient.

H. Two reasons for using aids in positioning the patient are:

(1) _____ (2) _____

I. Circle your answers in the following statement: A pillow placed between the knees of a patient lying on his side will (increase) (decrease) the pressure on the knee joint and keep the hip joint from turning (inward) (outward).

J. A patient complains of severe discomfort in the small of his back while in the supine position. When you provide support for his back, you must avoid _____ of the back.

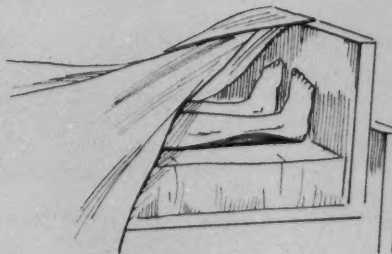
ITEM 4: VARIOUS OTHER SUPPORTIVE AIDS

The *hand-roll* is used to keep the fingers of the hand slightly flexed and the thumb in opposition to the fingers. It is used for the patient whose upper extremity is paralyzed, or who is unable to move his hand because of injury or disease. The hand-roll is simple and can be made by the patient's family or by volunteers if the hospital does not have an adequate supply. It is made of firmly woven cloth, about 4 to 5 inches long and 2 to 3 inches in diameter, and is stuffed firmly. It should fit into the palm of the hand with the thumb curved on one side of the roll and the fingers flexed along the other side. A cloth loop or loose elastic band on one side for the fingers and on the other side for the thumb helps to keep them in position on the roll. (A rolled washcloth can be used temporarily.)



The hand-roll.

To help keep the bed patient's feet in good alignment, you should place a *footboard* between the end of the mattress and the foot of the bed. The common type of footboard is made of wood, is "L"-shaped so that one end can be slipped under the mattress to keep the board in a firm upright position, and it should be covered with a cloth pad or sheet. The patient should be positioned in a supine position so that the bottoms of his feet rest flat



A footboard.

against the surface of the footboard. The top bedding is brought over the top of the footboard so that they will not cause pressure or weight on the toes. The position of the feet on the footboard and the top bedding over it are shown in the drawing.

Sandbags are just that — canvas bags (or rubber or plastic) filled with sand so that they are heavy in weight, yet slightly flexible in use. Common sizes are one pound, five pounds, and ten pounds. They are used to immobilize a part of the body by providing firm support that limits movement. You simply place the sandbag snugly next to the part that is to be supported. You will use sandbags on either side of the head following certain types of eye surgery when it is essential to prevent the patient from turning his head. Frequently, you will use sandbags to maintain the position of the feet on the footboard, especially when the foot tends to turn outward or inward. Sandbags are used as a temporary measure to immobilize a bone that has been fractured.

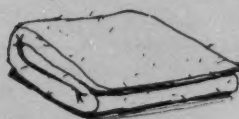
The *trochanter roll* should probably be used more often than it now is to support the hip joint and thigh. The trochanter roll prevents the hip and thigh from rotating outward and helps keep the foot in better alignment. Patients who have been paralyzed as a result of a stroke or other injury, those who have had a fracture of the femur, or those who have had surgery on the hip could benefit from the support given by the trochanter roll.

- a. The roll is made by folding a light bath blanket or a sheet to the desired length of two or three feet.
- b. It is then rolled into a tight cylinder.
- c. The loose end of the roll is placed under the patient's hip and thigh with the roll *under* the flap end.
- d. The roll is then tucked snugly along the hip and leg.

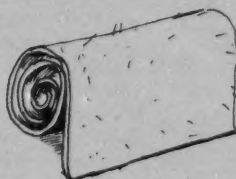
The trochanter roll and its use are shown in the accompanying drawings.

This brings us to the second principle in positioning the patient.

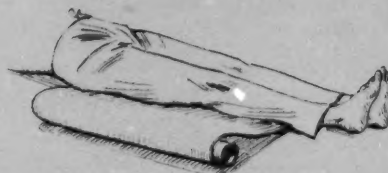
To make a trochanter roll:



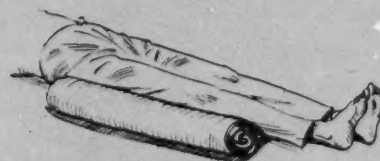
1. Fold in thirds.



2. Roll up.



3. Place flap under patient.



4. Roll in place.

PRINCIPLE II. BODY PARTS ARE SUPPORTED IN GOOD ALIGNMENT TO PROMOTE COMFORT AND TO PREVENT UNDUE MUSCLE STRAIN.

K. Select the *one* best answer to complete this statement. A footboard should extend high enough above the mattress of the bed so that it will:

- ___ (1) stay in a firm upright position.
- ___ (2) support the foot from heel to beyond the toes.
- ___ (3) prevent muscle strain in the lower extremity.
- ___ (4) keep the top covers off the foot of the bed.

L. Circle your answers in this statement. A hand-roll is used to keep the fingers (flexed) (extended) (in opposition) and the thumb (flexed) (extended) (in opposition).

M. The trochanter roll is used to keep the _____ joint from outward rotation.

ITEM 5: USE OF FLEXION IN POSITIONING

A more comfortable position for the bed patient is produced by flexing (bending) segments of the body. The patient will be more comfortable with some flexion of his elbows, hips, and knees while the alignment of the rest of his body is maintained. Those parts that are flexed may need to be supported to keep them in good alignment as well. Most of the positions in which you will place the bed patient will allow flexion of some part of the body.

Although the position with flexion is more comfortable for the patient, *he must not be left in that position for more than two hours without extending (straightening out) the flexed body segment.* A position of prolonged or habitual flexion by the helpless or weak patient may result in *contractures*. Contractures are the result of muscles that are permanently contracted (shortened) which leads to the "freezing" of the affected joint. The joints of the upper and lower extremities are most affected by contractures. Through lack of movement and change of his position, the patient loses even more movement. The patient who recovers from a serious disease or injury only to find that he is hopelessly crippled by contractures of his arms or legs represents a tragic result of inadequate nursing care.

Our third principle of positioning the patient is concerned with nursing diligence to prevent the formation of contractures.



Bed position using flexion of hip and elbows.

PRINCIPLE III. THE HELPLESS PATIENT'S POSITION IS CHANGED AT LEAST EVERY TWO HOURS TO AVOID PROLONGED FLEXION OF ANY ONE BODY SEGMENT.

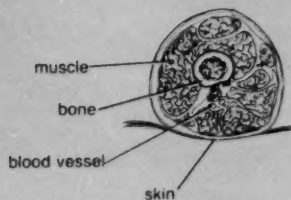
- N. The most comfortable position for a patient combines good body alignment, support of body segments, and _____.
- O. The patient's position should be changed every _____ hours.
- P. Prolonged flexion of a body part, such as the elbow, may result in the formation of _____.

ITEM 6: WHAT IS PRESSURE?

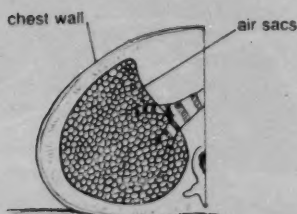
Perhaps the most important of all the reasons for changing the position of the patient is to reduce pressure on the various body parts and to prevent the formation of pressure areas. Now let us see why it is so important to reduce pressure by changing the patient's position frequently.

You already know that the body has weight, and that every part of the body also has weight. The arm has weight. The eyelid has weight. The liver, blood, hair, and nails all have weight. This weight exerts a force when it comes in contact with another body or object, and this force is called pressure.

The weight of the patient's body in contact with the bed causes pressure both on his body and on the bed. (We won't worry about the bed at this point.) The longer the patient remains in one position, the more the continued weight of the body presses down on the skin, blood vessels, and muscles on which the body rests. Since the skin, blood vessels, and muscles cannot exert an upward force, the pressure of the body weight makes them flatten out and become more compact. This is shown in the first two figures. Organs of the body are also affected by the force of pressure, and the lungs are extremely susceptible to it. The longer the patient's body remains in one position, the more the weight of the lung presses down on the rest of the lung beneath it and makes it more dense and compact. The air is squeezed out of the air sacs by the weight of the lung. These flattened air sacs often become the site of an infection or pneumonia within a matter of a few hours. The next two sketches show the lung changes due to pressure.



Initial Contact:
muscles, blood vessels, skin.



Initial Contact: lungs.



Continued Pressure:
muscles, skin, blood vessels.



Continued Pressure: lungs.

- Q. When a body comes in contact with another body or object, its _____ exerts a force known as pressure.
- R. Prolonged pressure causes the skin, blood vessels, and muscles to become _____ in shape.
- S. The _____ is an organ that is quickly affected by pressure.

ITEM 7: PRESSURE ON THE SKIN

Although we cannot see the effect of pressure directly on the organs of the body (like the lungs) it can be observed in the skin. The skin areas most commonly affected by pressure are those areas over bony prominences. These are found at the back of the head, over the shoulder blades, the elbow, the sacrum, the trochanter of the femur, the knees, and the heels. The continued weight of the body on these areas produces a reddening of the skin from the pressure. The blood circulation to the skin area is impaired because the blood vessels are flattened out and thus carry less blood. The skin and muscle tissues are also flattened, becoming more dense and compacted, thus further slowing down the flow of blood to the part. The slowdown of the blood flow away from the pressure area causes the red color of the skin. With continuing pressure, the skin and muscle tissues are deprived of the oxygen and foods carried by the blood cells, and so they begin to die. When this happens, the skin forms a pressure sore, also called a bedsore, or decubitus (plural — decubiti).

Pressure areas may develop within a period of a few hours on an undernourished patient and on the helpless or aged patient. Once a pressure area has broken down into a pressure sore it will take much time and effort to heal it. Some pressure sores take years of hospitalization to treat, cost thousands of dollars, and still never heal completely. *Prevention is the best cure.* Most often, pressure sores are the result of poor nursing care: not enough attention and care were given to turning the patient and preventing the development of pressure areas.

- T. A pressure area that breaks down into a sore is called a _____ or a _____.
- U. Pressure areas of the skin most often develop over _____ of bones.
- V. The first sign of pressure is _____ of the skin.

ITEM 8: PROTECTIVE AIDS TO PREVENT PRESSURE

The primary method of preventing pressure areas is to change the patient's position at least every two hours. However, other aids are available for you to use to reduce pressure. The sacrum and the bony prominence of the hip joint (the trochanter of the femur) are frequent sites of pressure areas in the helpless bed patient. A synthetic lamb's wool pad (Decubix) may be placed under the patient's hips from the waist to the knees to reduce the pressure. Most of the patients find these pads comfortable. They have a deep pile which resists matting and traps air between the fibers, thus forming a soft support for the body. Most of these pads can be laundered and dried by machine, then fluffed by a gentle shake so that



they can be used for more than a year. The pads can also be used to turn or lift the patient, avoiding the friction of sliding the patient's tender skin areas on the bed linen.

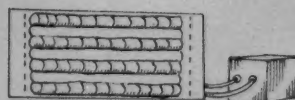
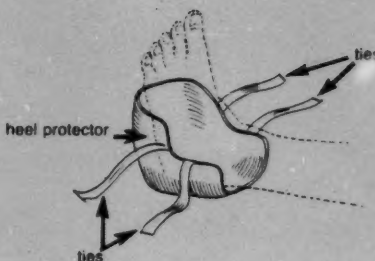
Foam rubber padding about 1/2 inch thick can be used to reduce pressure over any bony prominence. The sheet of padding can be cut to any size to fit under the body, protect the elbows, ankles, or heels. Specially designed heel pads are available, made of synthetic lamb's wool inside a sturdy cloth covering which is shaped to fit the heel.

The inflated rubber rings and round donuts, frequently used in the past by nurses to protect pressure areas on the sacrum or the heel, are *not recommended*. These aids tend to be too firm, cause additional pressure around their circumference, and further decrease the blood flow to and from the part. (The donuts are commonly made of absorbent cotton shaped in a circle and wrapped with gauze or other similar material.)

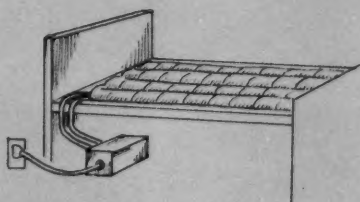
In recent years, more products have become available to help reduce pressure areas in bed patients. Most noteworthy are the flotation mattresses and pads. There are several types; some are filled with water, others are filled with beads, and some with air. The alternating air pressure pad is currently the most widely used flotation method. It consists of a heavy vinyl pad which has an odd and an even set of vertical chambers which are alternately inflated with air and then deflated. The two sets of air chambers in the pad are connected by a plastic hose to a motor which cycles the air into the chambers. This produces a slight shifting motion that continually changes the pressure caused by the weight of the body.

To use the alternating air pad, place it on the mattress, cover it with the bottom sheet, position the patient on it, attach the hoses to the pump, plug the motor pump into an electrical outlet, and turn it on. You must *avoid puncturing the plastic pad with pins or other sharp objects, or kinking the tubes which connect with the motor*. Although the alternating air pad is a valuable aid in the nursing care of patients who are in danger of developing pressure areas, the patient must still be turned every two hours or oftener, and must be positioned in good body alignment.

In the future, we may see greater use of *silicone flotation pads*. Silicone pads were developed to protect delicate instruments in space rockets and are still very expensive. The pad is so effective that you can put a 2 to 3 inch silicone pad on a chair, place an uncooked egg on the pad,



Alternating pressure mattress with motor



Alternating pressure mattress on bed, attached to electrical outlet.

then sit down and roll on the egg without breaking it! The silicone pad distributes your body weight in such a way that the pressure of weight is reduced, and therefore you do not break the egg by sitting on it. (It's messy if the egg shell is cracked before you sit down!)

Note: Although there are now many devices on the market to assist in preventing pressure sores (and there will undoubtedly be more), nothing can substitute for your own personal active attention to correct positioning and prevention of decubiti by frequent massage, and frequent position change, as well as maintaining a clean, dry bed. *You* are the key to prevention of pressure sores, not the various devices you may use.

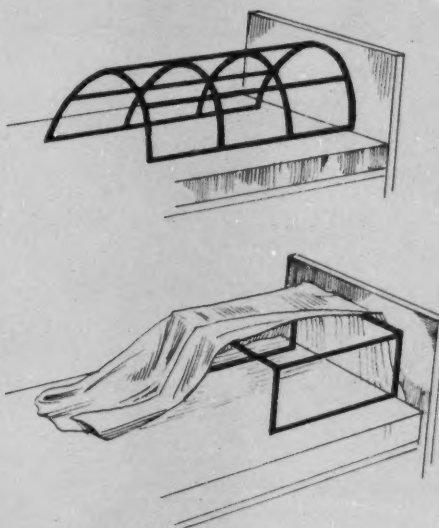
W. The primary method used by nursing workers to prevent the formation of pressure areas in the bed patient is:

X. In addition to the primary method, what other *two* methods might you use for the patient who shows signs of pressure on the skin over his sacrum?

(1) _____

(2) _____

The overbed cradle is used to prevent the weight of the top bedding from causing pressure on the patient's toes and leg. The cradle is placed over the bottom bedding and the top bedding is then brought over the cradle. Many overbed cradles are semi-circular in shape and made of wood and metal, while others are constructed of metal tubing as shown.



Overbed cradles.

The final principle of positioning the patient can then be stated as follows:

PRINCIPLE IV. PRESSURE CAUSED BY BODY WEIGHT ON ANOTHER BODY OR OBJECT CAN BE REDUCED BY CHANGING THE POSITION OF THE BODY OR BY USING PROTECTIVE AIDS.

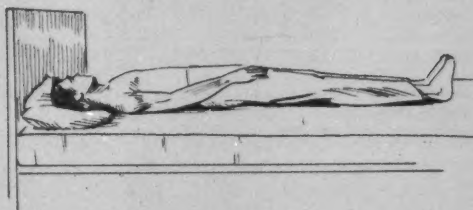
ITEM 9: BASIC BODY POSITIONS AND THEIR VARIATIONS

We have now identified four principles to remember in the positioning of the helpless patient in bed. They are:

- I. Good body alignment of the patient is maintained at all times.
- II. Body parts are supported in good alignment to promote comfort and to prevent undue muscle strain.
- III. The helpless patient's position is changed at least every two hours to avoid prolonged flexion of any one body segment.
- IV. Pressure caused by body weight on another object or body can be reduced by changing the position of the body or by using protective aids.

These principles form the guidelines for the skills you will use to position the bed patient.

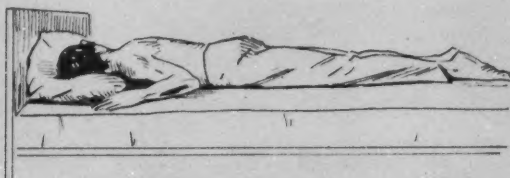
There are three basic positions for the patient to assume while in bed. These are: the *supine* position with the patient lying on his back, the *lateral* position or lying on one side, and the *prone* position, where the patient lies on his stomach. These positions are shown in the accompanying sketches. All other positions that you will use for your patients are variations of these three.



Supine position.



Lateral position.



Prone position.



Fowler's position.

The variations of the supine position include sitting with the head elevated. When only the patient's upper body and head are elevated 45° , the sitting position is called *Fowler's position*.

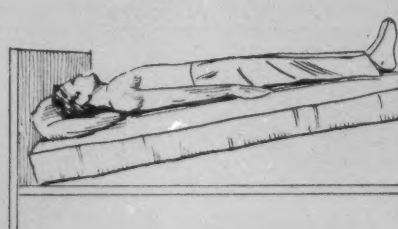
Semi-Fowler's position involves raising the head of the bed 45° and the knee rest of the bed 15° . The latter is more comfortable because it reduces strain on abdominal and leg muscles, and helps keep the patient from sliding down in the bed. The other variation of the supine position has the patient's feet elevated and his head lowered in what is called the *Trendelenburg position*. This is used mainly for the patient who has gone into shock, or is in the operating room for certain types of surgery. There is a tendency for the patient to slide toward the head of the bed while in this position, and so you should pad the head of the bed with a pillow and place sandbags against the patient's shoulders. The variation of the lateral position is *Sims' position*, in which the uppermost leg is sharply flexed so that it does not rest upon the lower leg.



Semi-Fowler's position

Y. The four principles used in positioning the helpless bed patient are:

- (1) _____.
- (2) _____.
- (3) _____.
- (4) _____.



Trendelenburg position

Z. Please place a check mark to indicate which of the following are *variations* of the basic positions of the bed patient.

- (1) head elevated, hips and knees flexed.
- (2) lying on one side with one leg resting on the other.
- (3) lying with face and feet upward.
- (4) lying with feet elevated and head lowered.
- (5) lying with foot of bed level and head elevated.



Sims' position

ITEM 10: PLACING PATIENT IN THE SUPINE POSITION

In the skill laboratory, you will practice placing the patient in each of the three basic positions and the four variations while using the principles of positioning to keep good body alignment, support parts of the body, and reduce pressure. One of the other students, or another person, should play the part of the patient for your practice session. (Remember to use good body alignment principles for yourself.)

Given a bed patient who became paralyzed on his right side two days ago, you will place him in a supine position using the principles of positioning as your guidelines, and the principles of good body movement to prevent injury or strain to yourself.

Important Steps

1. Approach and identify the patient, explain what you are going to do, and enlist his cooperation.
2. Position the bed.
3. Place the patient on his back.
4. Align the patient's body in good position.
5. Support the body parts in good alignment for comfort.

Key Points

The patient may be frightened by what has happened to him, as well as depressed or emotionally upset. You will have to reassure him of your ability to help him move. Explain the need to change his position frequently for his health and comfort. Wash your hands.

Place the bed in a flat or level position at working height, unless contraindicated. Common contraindications for bed position change may be patients with severe cardiac (heart) or respiratory (lung) diseases or subarachnoid hemorrhage or patients in some type of traction or cast which precludes changing the bed position. Be sure to obtain this information from your nurse when you receive your assignment, or refer to the patient's nursing care plan in the Kardex. Lower the siderails on the proximal side, if they are used. The proximal side should be the side on which the patient is paralyzed. It requires the most support from you, and working near it reduces the distance you need to stretch or reach.

Use smooth, coordinated movements with good alignment of your body to prevent strain or possible injury. Avoid sliding the patient on the bedding; this causes friction and a possible sheet burn. If patient is on his side, remove any supportive pillows, fold top bedding back to his hips, and avoid any undue exposure of the patient's body which may embarrass him or others. With one hand on his shoulder and one on the hip, roll his body in one piece (like a log) over onto his back. Always avoid twisting the back by moving the torso (trunk) of the body as a unit.

The head, neck, and spine should be in a straight line. The arms and legs should be parallel to the body. The hips, knees, and feet should be in good alignment.

Place a pillow under the head and shoulders to prevent strain on neck muscles. Support the small of the back with a folded bathtowel or small pillow. Since this patient is paralyzed on his right side, he will be unable to keep the right leg in good position. You should put a footboard at the foot of the bed and place the patient so that his feet are flat against it. A sandbag is placed along the outer portion of the right foot to keep the foot upright. Now make a trochanter roll and arrange it along the right hip and thigh to keep the hip joint from rotating outward. Place a pillow under the right forearm so that the arm is at least 6 inches from the body and place a hand-roll in the paralyzed right hand. Use the loops of a slightly loose bandage to keep the fingers flexed and the thumb in opposition on the roll; otherwise the roll will slip out of place.

Important Steps

6. Use aids to reduce pressure on bony prominences, if indicated by the condition of the patient.
7. Provide for the patient's comfort.
8. Report and record, as appropriate.

Key Points

The paralyzed patient may not be aware of any discomfort caused by pressure, so you must be alert to prevent and reduce pressure, especially on any paralyzed parts. Place a synthetic lamb's wool pad under the patient's hips and thighs. With one hand on shoulder and one hand on distal hip, roll the patient toward you, continue to support the shoulder and chest with one hand, and place the pad along hips and thigh with one half of the pad tucked close to side and bed. Roll patient onto his back, reach under his proximal side, and pull remainder of the pad into place. Be sure to reposition the patient's body parts. Place a piece of foam rubber padding under the patient's right heel, or use a protective heel of synthetic lamb's wool.

Adjust the top bedding, leave call bell where he can reach it with his unaffected hand, and raise the siderails. Plan to change his position at least every two hours, or oftener. Tell him when you expect to return.

Report to the team leader or the nurse in charge that the patient has been positioned. Report and record any change in the patient's condition, such as reddened areas of the skin over bony prominences, decreased movement in his joints, pain on movement, difficulty in breathing or swallowing, etc. Charting example:

10:00 A.M. Patient returned to supine position; no reddened areas observed on back; moves easily without pain or dyspnea. J. Jones, LVN

ITEM 11: PLACING PATIENT IN FOWLER'S POSITION

Now that you have positioned the patient in a supine position, you should practice placing him in variations of that position. Therefore, given a patient with paralysis of his right side who is in a supine position in bed, place him in a Fowler's position.



Fowler's position.

1. Approach and identify the patient, explain what you plan to do, and enlist his cooperation.

Whether the bed is an electrically operated or a manual Gatch-type, explain that you will raise the head of the bed slowly and ask him to tell you when to stop if he becomes uncomfortable. Wash your hands.

2. Elevate the head of the bed.

Slowly raise the head of the bed. Ordinarily, the head of the bed would be elevated between 15° and 60° (usually about 45°) and would not be brought to the full upright position for any helpless patient because he may be unable to maintain his balance in the upright sitting position and would slip or fall.

3. Place the patient in good body alignment.

See that the head, neck, and back are straight. The weight of the body should be supported at the point where the hips are flexed in the sitting position. See that the feet are straight and the toes are pointing in an upright position.

4. Support the body parts in good alignment for comfort.

The body parts should be supported in Fowler's position as they were in the supine position. Place the pillow under the head and shoulders, the trochanter roll along the right hip and thigh, the footboard at the foot of the bed, a sandbag along the outer part of the right foot, and a pillow under the right forearm to reduce the pulling drag on the shoulder joint. The hand and thumb should be supported on the hand-roll.

5. Use aids to reduce pressure on bony prominences, if indicated by condition of the patient.

You should prevent or reduce pressure as you do for the supine position by use of a synthetic lamb's wool pad or foam rubber pad under the hips, and a protective heel or pad on the right foot.

6. Provide for the patient's comfort.

Adjust the top bedding, raise siderails, and arrange personal articles he may want, such as drinking water or call bell, close at hand so that he can reach them easily. Plan to change his position in two hours or less, to prevent prolonged flexion of the hips. Tell him when you expect to return.

7. Record and report, as appropriate.

Be sure to notify other team members involved in the care of the patient about the time schedule for changing the patient's position. Charting example:

12:10 P.M. Patient's position changed to Fowler's. Is in good spirits today, moving easily, without pain. J. Jones, LVN

ITEM 12: PLACING PATIENT IN SEMI-FOWLER'S POSITION

Given the same patient who has paralysis of his right side and who is lying in a supine position in bed, place him in a semi-Fowler's position. Follow the same procedure as outlined in Item 11, except that you will add the following as part of Step 2.



Semi-Fowler's position.

2. Elevate the knee rest of the bed.

Slight flexion of the knees provides more comfort for the patient by reducing strain on abdominal muscles and helps him maintain a sitting position without sliding down in the bed. It also prevents hyperextension of the knees. Charting example:

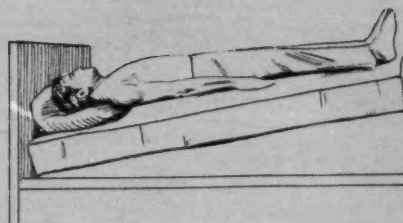
12:10 P.M. Placed in semi-Fowler's position. Patient says this is the most comfortable position for him. J. Jones, LVN

ITEM 13: PLACING PATIENT IN TRENDELBURG'S POSITION

Given a patient going into shock as a result of possible internal bleeding, you are to place him in the Trendelenburg position immediately.

Important Steps

1. Approach and identify the patient, explain what you plan to do, and enlist his cooperation, if his condition permits.
2. Position the bed.
3. Elevate the foot of the bed and place patient in Trendelenburg position.
4. Align the patient's body in good position.



Trendelenburg position.

Key Points

The patient going into shock is likely to be quite apprehensive and know that something is wrong with him. As shock deepens, he will become more difficult to arouse and less alert. Wash your hands.

If possible, place the head of the bed touching the wall. Lock the brakes on the wheels at both the head and the foot of the bed. Remove the pillow from under the patient's head and place it upright at the head of the bed. Lower the head of the bed.

If the bed is automatically adjustable, either electric or manual, disengage the head-rest hold, and raise the foot of the bed. This will also lower the head of the bed as the foot of the bed is elevated, so that the bed remains flat although on an incline. If the bed is a Gatch adjustable type, elevate the knee rest, then raise the foot rest and engage the metal support in the ratchet on either side of the bed.

Note: Alternative methods of raising the foot of the bed: two people lift the foot of the bed while a third person places wooden shock blocks under the wheels at the foot of the bed; two people lift bed and support the foot of it on the seats of two chairs; or a hydraulic bed lifter is used to elevate the foot of the bed.

The patient should always be in good alignment: head, neck and back straight, legs and arms parallel to the body. The weight of the arms on the chest or abdomen may restrict breathing movements.

Important Steps

5. Support the body in good alignment for comfort.
6. Use aids to reduce pressure over bony prominences.
7. Provide for the patient's comfort.
8. Report and record, as appropriate.

Key Points

Use small pillows or folded bathtowels to support the neck and the small of the back to relieve muscle strain. Since the patient in this position will tend to slide toward the head of the bed, place a sandbag above the shoulders to help maintain his position.

The initial use of the Trendelenburg position is generally during a medical emergency, so other life-supporting treatment is carried out first. When time allows, you must reduce pressure because the patient's movements may be severely limited. Provide padding under the hips and heels as needed. The back of the head and the elbows may need to be padded as well.

If the patient remains in this position for more than two hours, you must turn him from side to back to side on a two-hour schedule if his condition permits; otherwise, make slight alterations in his position by propping the shoulder and arm on a pillow tucked partly under him, etc.

Always report to the team leader or the nurse in charge and record on the patient's hospital chart that the patient has been placed in Trendelenburg position, his condition at that time, and any changes in his condition thereafter. The patient must be observed closely during the emergency period and his early convalescence.

Note: To place the patient in *reverse-Trendelenburg position*, the head section of the bed is elevated, and the foot section lowered. (Head of bed can be raised on "shock blocks" by a mechanical jack or lifter, or placed on chairs if the head section cannot be elevated mechanically.) This position may be used for patients who have certain circulatory diseases. Charting example:

2:00 P.M. Placed in reverse-Trendelenburg position, per order. Color remains pale, however. IV's running as ordered. Approximately 25 cc. solution absorbed. J. Jones, LVN

ITEM 14: PLACING PATIENT IN LATERAL AND SIMS' POSITION

Given an elderly patient who is extremely weak and unable to turn himself, you will position him in a lateral position and then in Sims', using the principles of positioning.

Important Steps

1. Approach and identify the patient, explain what you plan to do, and enlist his cooperation.

Key Points

The patient may feel that it is too much work to turn, so explain how you will help him, provide support, and emphasize how necessary it is for his recovery and comfort. Other

Important Steps

2. Position the bed.
3. Turn the patient on his side toward you, or turn on side away from you. (Obtain assistance, if needed.)

Note: Flex distal knee, cross distal arm across chest before moving patient (reverse extremities when turning away from you).



4. Align the patient's body in good position.
5. Place the patient in Sims' position.
6. Support the body in good alignment for comfort.

Key Points

patients may resist turning because of fear or pain, especially those who have had surgery or an injury. Wash your hands.

Lower the head and foot of the bed so it is level or flat. Then lower the siderail on the proximal side where you are working, if it was in use.

Fold the top bedding back to level of patient's hips, and avoid undue exposure of the patient's body which may embarrass him or others.

To turn the patient on his side toward you: Place one hand on his distal shoulder, the other on his distal hip, and draw his body toward you in one piece without twisting the back. Then slide both hands across the patient's back to his proximal hip and shoulder, lift slightly outward, and smoothly roll his body toward you. Remember to use good body movements so that your back is straight and your knees are flexed. Use large muscle groups for lifting movements.

To turn the patient on his side away from you: This requires less effort, when the patient is large or extremely helpless, than to turn him toward you. With one hand on the proximal shoulder and the other on the hip, roll the patient's body away from you onto his distal side. Lower your hands to his distal shoulder and hip, and pull them toward you to stabilize the patient on his side. Again, you must use good body movement to avoid possible strain or injury to yourself.

Make sure the patient is not lying on his arm. See that his head, neck, and back are in a straight line, that his legs are parallel, with knees slightly flexed. The patient's uppermost arm may be flexed across his abdomen or supported on his body and hip.

Flex the uppermost leg so that it does not rest upon the lower leg. The patient's lowermost arm may be at his back in this position. At the time he is turned, it should be parallel to his body, and when he is on his side, support and lift the shoulder slightly with one hand and with the other grasp his elbow and draw his arm smoothly from under him to his back.

Place a pillow under the patient's head and neck to prevent muscle strain and maintain alignment. Put a pillow under the uppermost leg so that it is supported from the knee to the foot. Another pillow may be placed firmly against the patient's abdomen to support the back and hip in better alignment.

Important Steps

7. Use aids to reduce pressure over bony prominences.
8. Provide for the patient's comfort.
9. Report and record, as appropriate.

Key Points

You may need to use a foam rubber pad or a protective heel to prevent pressure on the ankle of the lowermost leg. Also a synthetic lamb's wool pad or foam rubber pad should be used under the patient's hip and thigh to reduce pressure on the trochanter at the hip joint. Many elderly patients who are thin tend to show signs of pressure in this area.

Adjust the top bedding and siderails, if indicated. Place bedside articles so that patient can reach them. Make sure his call button is within reach. Change his position in two hours or less. Tell him when you plan to return.

Be sure to notify other team members involved in the care of the patient about the time schedule for changing the patient's position. Report and record any change in the patient's condition, such as reddened skin areas, pain on moving, fever, difficulty in breathing, or cough. Charting example:

4:00 P.M. Placed in left Sims' position. Seems more alert this P.M. No complaints.

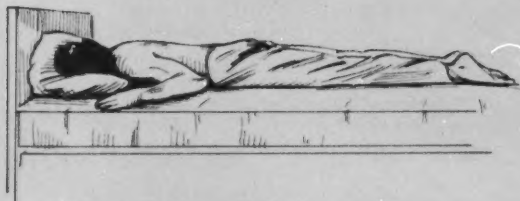
J. Jones, LVN

ITEM 15: PLACING PATIENT IN PRONE POSITION

Given a patient who is being treated for a draining wound of the sacral area, you are to place the patient in a prone position using the principles related to positioning.

Important Steps

1. Approach and identify the patient, explain what you plan to do, and enlist his cooperation.
2. Adjust the bed.



Prone position.

Key Points

If the patient is accustomed to sleeping on his abdomen, he would probably welcome the change. If not, he may resist, especially if he fears it would be painful. Some patients must be reassured that you will turn them back whenever the position becomes uncomfortable. Wash your hands.

Lower the head rest and knee rest so that the bed is in a flat position. Raise bed to working height. Lower the siderails on the side where you are working. Fold the top bedding down to the level of the patient's hips. Avoid undue exposure of the patient's body which may cause embarrassment to him or to others.

Important Steps

3. Position the patient in bed.
4. Turn the patient on his side and over onto his stomach (preferably roll toward you so that you can observe closely).
5. Align the patient in good position.
6. Support the patient's body in good alignment.
7. Use aids to reduce pressure on any bony part.
8. Provide for the patient's comfort.
9. Report and record, as appropriate.

Key Points

The patient should be moved down in the bed so that his feet will extend over the edge of the mattress, if there is room between the mattress and the foot of the bed. Remove footboard, if present.

Turn the patient on his side according to the procedure given in Item 14. Continue to roll the patient over until he is on his stomach. Be sure to turn his head to one side so that he may breathe easily.

The patient's head should be turned to one side; his neck and back should be in a straight line. The arms may be parallel to the body in a slightly flexed position, or the arm on the same side that the head is turned can be flexed sharply at the elbow so that the hand is near the head. The legs should be straight and the feet extended over the edge of the mattress to avoid hyperextension of the foot. If this is not possible, the feet should be supported in good alignment to prevent foot drop as a result of prolonged hyperextension.

If the patient's feet cannot be extended over the edge of the mattress, place a pillow under both ankles. A small pillow or folded towel under the head may be used if the patient requests it. Most often, it will not be needed for comfort.

For the woman patient in a prone position, pressure on the breasts is relieved by placing a pillow below the breasts for her to lie on. A pillow placed under the lower abdomen of the male patient relieves pressure on his genital organs. Many infants and restless patients will develop reddened skin areas on the knees when in the prone position. The use of the synthetic lamb's wool pad or a foam-rubber pad under the knees will reduce pressure and friction.

Adjust the top bedding and raise the siderails. Place his call button within his reach. Plan to change his position in two hours or less. Make sure his dressing is in place and dry. Tell him when you expect to return.

Report and record any change in the patient's condition and the time schedule for changing his position. Charting example:

6:00 P.M. Placed in prone position. Dislikes this position — can't see what's going on. Bony prominences are free of redness. Back massaged. J. Jones, LVN

6:20 P.M. Sleeping quietly. J. Jones, LVN

ITEM 16: MOVING PATIENT TOWARD HEAD OF BED

Given a patient who had abdominal surgery yesterday and who has slipped down toward the foot of the bed, you are to move him toward the head of the bed using the patient's own help, and methods of good body movement.

Important Steps

1. Approach and identify the patient, explain what you plan to do, and enlist his cooperation.
2. Adjust the bed.
3. Tell the patient how he can help move up in bed.



4. Move the patient toward the head of the bed.
5. Provide for the patient's comfort.

Key Points

You will need to evaluate whether the patient can use his arms and legs to help move himself upward. If the patient is too large or heavy for one person to handle, or too weak, or when he is unable to exert himself, you will need another person to assist you. Wash your hands.

Place the bed in a flat or nearly flat position. Lower the siderail on the side where you are working.

The patient should flex both knees, push down on the mattress with both feet in order to move the lower portion of his body upward in bed. If possible, he should reach and hold the head of the bed with one or both hands, and pull his body upward when he pushes with his feet. You will assist him to move the upper portion of his body and to avoid burns to the skin of the lower trunk.

When the patient is in position with hands reaching the head of the bed and knees flexed, you should place one hand under his shoulder and across his back and support his head with the other hand. If there is no need to support the head, place the other hand under the hips to help move them. Upon your signal, both of you should move simultaneously toward the head of the bed.

Place pillow under the patient's head and shoulders. Check to see that his body is in good alignment, and that parts are well-supported. Use aids to reduce pressure when these are indicated. Raise the siderail, if required. Place the call button and other articles nearby so that the patient can reach them. Adjust the position of the bed so that it is comfortable for the patient, or suitable for his activity. Tell him when you will return.

ITEM 17: CONCLUSION OF LESSON

You have now finished the lesson on positioning the bed patient. When you have practiced the procedures sufficiently to gain some skills in aligning the patient, moving him, and using the appropriate supportive and protective aids, arrange with your instructor to take the performance test.

VII. ADDITIONAL INFORMATION FOR ENRICHMENT

Those of you who have a special interest or a desire to learn more about the use of supportive or protective aids may wish to read further. Much has been written about the effect of pressure on the body. Two articles are listed below. The articles include references that will provide additional information and sources of material. Your instructor can give you other references, if desired.

Carnevale, Doris, and Susan Brueckner, Immobilization — Reassessment of a Concept, *American Journal of Nursing* 70:1502-1507, July 1970.

Harvin, J. Shand, and Thomas J. Hargest, The Air Fluidized Bed: A New Concept in the Treatment of Decubitus Ulcers, *Nursing Clinics of North America* 5:181-187, March 1970. Describes an air flotation bed in which the air is pumped through a bed of glass spheres covered with a sheet on which the patient lies. The air bed promoted the healing of decubitus ulcers in paraplegic patients.

WORKBOOK ANSWER SHEET

- | | | |
|--------|--------|---|
| Item 1 | P. 313 | A. (1) patient's comfort
(2) relieves pressure
(3) prevents contractures
B. Alignment of the body
C. Disease; inability to move about or helplessness |
| Item 2 | P. 314 | D. Alignment
E. Good body alignment is maintained at all times
F. Strain on muscles
G. Any four of the following: neck, small of the back, the elbow, wrist, knee, ankle, Others not mentioned in the text could include the shoulder, abdomen, and hip. |
| Item 3 | P. 315 | H. Any two of the following: (1) to keep the body in alignment, (2) to provide support for body segments, and (3) to immobilize, or prevent movement in a part.
I. Decrease; inward
J. Hyperextension |
| Item 4 | P. 317 | K. (2)
L. Flexed; in opposition
M. Hip |
| Item 5 | P. 318 | N. Flexion
O. Two
P. Contractures |
| Item 6 | P. 319 | Q. Weight
R. Flattened (dense, compacted, etc.)
S. Lung |
| Item 7 | P. 320 | T. Bedsore; decubitus ulcer
U. Prominences
V. Redness |
| Item 8 | P. 320 | W. Turn frequently
X. Any two of the following: synthetic lamb's wool pad, foam rubber pad, alternating air pressure pad. |

- Item 9 PP. 314-323 Y. (1) Good body alignment of patient is maintained at all times.
- (2) Body parts are supported in good alignment to prevent undue muscle strain.
 - (3) Helpless patient's position is changed every two hours to avoid prolonged flexion of any part.
 - (4) Pressure caused by body weight on another object or body can be reduced by changing the position of the body or use of protective aids.
- Z. (1), (4) and (5).

PERFORMANCE TEST

In the skill laboratory, your instructor will ask you to demonstrate your skill in carrying out two of the following procedures without reference to source material. For these activities, you will need another person to play the part of the patient.

1. Given a patient with paralysis of both legs, you will place the patient in a supine position using the principles of positioning to provide good alignment, support, and protection from pressure.
2. Given a patient in a supine position who has paralysis of both legs, you will place the patient (1) in Fowler's position, (2) in semi-Fowler's position, and (3) in the Trendelenburg position.
3. Given a patient who had abdominal surgery yesterday, you will place the patient in Sims' position, using the principles of positioning to provide good alignment, support, and protection from pressure.
4. Given an adult woman patient with a disease that limits her movement, you are to place her in a prone position, utilizing the principles of positioning.
5. Given a patient with a high fever who has slipped down in bed while in a supine position, you are to assist the patient to move toward the head of the bed, using principles of good body movement.

PERFORMANCE CHECKLIST**POSITIONING THE BED PATIENT**

1. Check chart for contraindications.
 - A. Remove supportive pillows.
 - B. Do not slide across bedding.
2. Wash hands.
3. Identify patient.
4. Explain procedure to patient.
5. Place bed flat, at working level.
6. Lower siderails on proximal side.
7. Move body as a "log."
8. Head, neck, and spine in straight line.
9. Hips, knees, and feet straight and parallel.
10. Pillow under head and shoulders.
11. Place pillow or towel at small of back.
12. Place feet firmly against foot board.
13. Toes pointed upward; hold in position with sandbags if necessary.
14. Place trochanter roll along hip and thigh.
15. Provide for patient's safety and comfort, and leave call signal and bedside stand within easy reach.
16. Practice charting.

POSITIONING THE BED PATIENT*Use of Handroll*

1. Wash hands.
2. Identify patient.
3. Explain procedure to patient.
4. Place handroll in paralyzed hand. (Should be able to explain that it keeps fingers flexed and the thumb in opposition.)

Semi-Fowler's Position

1. Wash hands.
2. Identify patient.
3. Explain procedure to patient.
4. Elevate head of bed to approximately 45°, knees flexed approximately 15°.
5. Practice charting.

Fowler's Position

1. Wash hands.
2. Identify patient.
3. Explain procedure to patient.
4. Elevate head of bed to approximately 45 degrees; legs extended.
5. Align and support patient.
6. Practice charting.

Trendelenburg Position

1. Wash hands.
2. Identify patient.
3. Explain procedure to patient.
4. Lower head of bed.
5. Elevate foot of bed (on chair, shock-blocks or hydraulic lift).
6. Request assistance if necessary to place bed on chair or shock-blocks.
7. Practice charting.

POSITIONING THE PATIENT IN SIMS' POSITION

1. Wash hands.
2. Identify patient.
3. Explain procedure to patient.
4. Adjust bed to working height.
5. Prepare the patient for movement.
6. Place patient in Sims' position.
 - A. Place one hand on distal shoulder, the other on hip, draw the patient's body toward you, adjust patient's position when lying on his side.
7. Align the patient's body in good position.
8. Flex upper leg so that it does not rest on lower leg.
9. Position lower arm to rear of patient.
10. Support body for good alignment.
 - A. Place pillow under patient's head and neck.
 - B. Place pillow under uppermost leg so it is supported.
11. Use artificial aids to reduce pressure if required.
12. Provide for patient's comfort.
 - A. Adjust bedding.
 - B. Raise siderails.
 - C. Place call button in close position.
 - D. Inform patient when you will return.
13. Chart procedure.

POSITIONING THE PATIENT IN A PRONE POSITION

1. Wash hands.
2. Identify patient.
3. Explain procedure to patient.
4. Adjust bed to working height.
5. Position patient in bed.
 - A. Feet should be extended over the edge of mattress if possible.
6. Turn patient by placing one hand on the proximal shoulder and the other on the hip and rolling the patient's body away from you. (Be sure you observe proper body alignment of both patient and yourself.)
7. Adjust the patient's body alignment.
8. Use artificial aids to reduce pressure as required.
9. Provide for patient comfort and safety; inform patient when you will return.
10. Chart the procedure.

POSITIONING THE PATIENT IN A SUPINE POSITION

1. Wash hands.
2. Identify patient.
3. Explain procedure to patient.
4. Position bed (bed is flat and at working height unless otherwise indicated).
5. Prepare patient for movement (remove pillows and supportive aids).
6. Roll patient to a supine position; be careful to move the body as a single unit.
7. Position the patient's body in good alignment.
8. Support the body parts as required.
9. Use aids to release pressure on bony prominences if indicated.
10. Adjust bedding, position call bell, and inform patient when you will return.
11. Chart action appropriately.

MOVING THE PATIENT TOWARD THE HEAD OF THE BED

1. Wash hands.
2. Identify patient.
3. Explain procedure to patient.
4. Adjust bed to working height.
5. Instruct patient on how he can assist:
 - A. Flexing both knees, placing the soles of his feet on the mattress.
 - B. Grasp headboard with his arms.
 - C. On command, pull with his arms and push with his feet.
6. Initiate procedure.
 - A. Support head.
 - B. Support hips to assist in movement.
 - C. Coordinate patient's efforts with your own.
7. Provide for patient's comfort.
 - A. Pillows.
 - B. Aids.
 - C. Good body alignment.
 - D. Support.
 - E. Call button.
 - F. Siderails raised.
8. Indicate when you will return.
9. Chart procedure.

Unit 17

ASSISTING WITH NUTRITION

I. DIRECTIONS FOR THE STUDENT

Proceed through this lesson. When you have finished, demonstrate to your instructor the feeding of an infant and an adult in the skill laboratory.

For this demonstration, you will need the following:

1. Adult and infant mannequins
2. Complete meal tray
3. Baby bottle with formula (or any liquid)
4. I & O (Intake and Output) sheet or form and pencil

Following your demonstration, complete the post-test.

II. GENERAL PERFORMANCE OBJECTIVE

Following this lesson, the student will demonstrate knowledge and skills related to basic foods and general nutrition for adults and children. The student will be able to assist the adult and the child with nutrition, and make a record of oral intake and output.

III. SPECIFIC PERFORMANCE OBJECTIVES

When this lesson has been completed, student will be able to:

1. Assist or feed an adult patient and a pediatric patient with solids and liquids.
2. Record oral intake and output accurately.
3. Serve and collect meal trays and nourishments.

IV. VOCABULARY

calorie — unit of heat required to raise one kilogram of water one degree centigrade. A unit of measurement to determine the energy value of certain food substances.

carbohydrates — foodstuffs with high starch and sugar content, consisting of carbon, hydrogen, and oxygen molecules. A source of heat and quick energy, they are burned up rapidly by body action.

fats (lipids) — food substances which provide heat and long-lasting energy. Some common fats are lard, olive oil, and butter. They give flavor to foods and act as a regulator for emptying the contents of the stomach. Fats also consist of carbon, hydrogen, and oxygen molecules, but these elements are combined in a different manner from those of the carbohydrate molecule.

metabolism — chemical transformation (change) of food by which energy is provided for the growth of cells, and substances not needed by the body are decomposed. These substances are excreted by the body as waste products (urine, feces, sweat).

minerals — chemical substances which build and repair tissues; they are important for proper cell function. Some common minerals are calcium, phosphorus, sodium, potassium, iodine, and iron.

nutrition — branch of science dealing with the scientific laws which govern the food requirements of the human body for growth, reproduction, and energy.

proteins — food substances which build and repair tissue; they are also important in regulating the body processes. Proteins are composed of carbon, hydrogen, oxygen, and nitrogen.

vitamins — chemical substances that aid in body metabolism. When lacking in the diet, they manifest their absence by certain disease conditions. They are used to treat or prevent vitamin deficiency diseases. Some common vitamins are Vitamins A, B, C, D, E, and niacin.

V. KNOWLEDGE BASIC TO THIS LESSON

ITEM I: WHAT ARE THE BASIC NUTRITION REQUIREMENTS?

There are four basic food groups and one serving of each food type is recommended for each day in order to maintain good nutrition. These groups are:

A. Meat, Poultry, Fish

These items are the main sources for proteins, which are vital elements (nutrients, substances) for metabolism of the body cells.

B. Milk and Milk Products (includes eggs and cheeses)

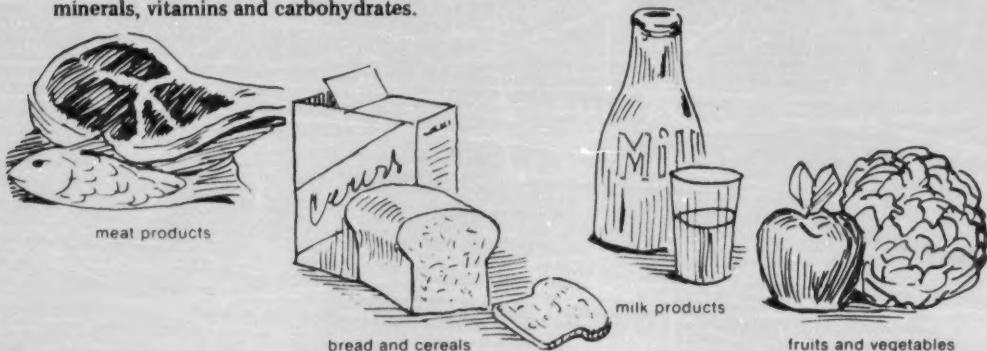
Good sources of calcium, proteins, and fats, these products are easily absorbed by the body.

C. Cereals and Cereal Products

These are carbohydrate foods which provide the body with quick energy; they are both economical and tasty.

D. Vegetables and Fruits

Vegetables, the edible parts of plants, supply the body with many important vitamins and minerals. Fruits generally do not have high caloric value, but contain many important minerals, vitamins and carbohydrates.



Four basic food groups (at least one serving from each group daily).

Diets are measured in terms of calories and how well they supply the essential elements of protein, carbohydrates, fats, vitamins, minerals, and water. The best diet is one which provides all the needed food elements in the quantity and proportions to sustain optimum health. Scientists have found that these food substances (nutrients) work better in combination than singly. The diet will be ordered by the physician. If the patient has particular fluid requirements, the amount of fluids to be taken during a 24-hour period will also be ordered by the doctor. Both food and fluid intake will be recorded by the nursing personnel responsible for the patient's care.

ITEM 2: WHAT ARE SOME OF THE COMMONLY ORDERED THERAPEUTIC (TREATMENT) DIETS?

Full Liquid Diet. Liquids alone are usually prescribed after surgery, in cases of acute infections, when the patient has difficulty in swallowing (dysphagia) or suffers from an acute inflammation of the gastrointestinal (digestive) tract. As the name implies, this diet consists primarily of liquids or strained, semi-liquid foods (such as Jello or custard).

Clear or Surgical Liquid Diet. The clear liquid diet assures a minimal residue and consists primarily of dissolved sugar and flavored fluids. It permits no milk, and is served in the form of ginger ale, sweetened tea or coffee, fat-free broth, and plain gelatin desserts.

Soft Diet. This is an easily digested intermediate diet which is a compromise between a full liquid and a general diet, consisting of soft foods which are easily chewed and digested, and which contain almost no fiber. These foods represent most of the items on a general diet except that they are chopped or strained for ease in digestion.



Intestinal disorder — soft diet.

Regular or General Diet. This is nutritionally prepared to include all items in the four basic food groups. In other words, it represents the normal diet for the healthy person; fried and highly seasoned food are usually avoided.

Diabetic Diet. The diabetic diet is prescribed for a specific diabetic patient. This is due to the fact that the dietary requirements differ with each individual, based on the severity of the disease, the type of insulin therapy administered, the amount of exercise performed, and the weight and age of the patient. The diet is usually measured in grams of protein, carbohydrates, and fats (as well as calories) per day.

Bland Diet. Often used as an adjunct in the treatment of colitis, gallbladder disease, gastritis, and post-operatively after abdominal surgery, this diet consists of food that is non-irritating. It excludes fried foods, onions, radishes, cabbage, coffee, tea, and very hot or very cold or highly seasoned foods.

Low-Sodium Diet. The low-sodium diet is prescribed in any illness where the patient retains fluids in his body tissue. Sodium (salt) is an element which helps retain fluid in the body tissues. It is restricted in various illnesses including cardiovascular, kidney diseases and complications of pregnancy. The greatest source of sodium is ordinary table salt (sodium

chloride). Generally, all processed meats, meat products, fish, canned vegetables, and many frozen foods contain more salt than is compatible with low-sodium diets. It should be noted that many natural foods have small amounts of sodium in them. Some foodstuffs may, therefore, also be restricted on the low-sodium diet.



Heart Disease — low sodium diet.

It is important to remember that dietary prescriptions during illness may require adjustment to many changes from normal eating habits. It may be that the patient is ordered to eat a regular well-balanced diet when he does not have a normal appetite and when he has not been accustomed to eating such a diet. Certain foods are favored by families and therefore become an enjoyable custom which brings a sense of stability to its members. Eating habits are culturally learned. For example, the Mexican may be accustomed to eating spicy foods which are now denied him. A Jewish patient may be used to salty foods; now suppose he is suddenly limited to a low-sodium diet. Think how you would feel if the foods you are accustomed to eating are suddenly denied you. A person's national origin greatly influences the types of foods he likes. Food is thus very important and it becomes even more so when the individual is ill. People of German descent like pork, noodles and sauerkraut. Those of Italian heritage enjoy pasta, greens, olive oil, and fresh fruits. People of Oriental background eat rice, cabbage, and various chicken and pork combinations. Surely you can think of many other characteristic diets which are "inherited."

Food habits also vary according to regional origins, religious laws, economic background, and, of course, personal food preferences.

You must convince the patient that his diet is as important as the medical treatments in alleviating his condition. You should notify your team leader that it would be helpful if the dietitian could visit the patient. She may be able to adjust the diet, without altering the medical requirements, so that it is more appealing to the patient.

ITEM 3: WHAT ARE YOUR RESPONSIBILITIES FOR PATIENT NUTRITION?

Nursing personnel cannot separate the other elements of patient care from the need to give attention to adequate nutrition. Wash your hands before beginning this procedure. Identify the patient.

A. Before Meals

(1) Provide for Elimination. Assist the patient to the bathroom or in using the bedpan/urinal. Offer this assistance before meals without

patient request; interrupting the meal for this activity may cause physical or psychological distress to the patient. Change infant's diaper, if necessary. Wash your hands.



(2) Give Mouth and Hand Care. Assist patient to wash his face and hands in preparation for meals. Allow patient to brush his teeth (dentures) before his meal. This is important because many sick people have a bad taste in their mouth. If good oral hygiene is not given, their food may taste bad. They need nourishment to gain strength.

(3) Position Patient. If patient is able, assist him to a chair and place the overbed table in front of him. If he must be in bed, place him in a sitting position (semi-Fowler's), using pillows to support his head, if necessary. Ask patient if he is comfortable; this is very important if he is to enjoy his meal. Make sure that overbed table is cleared to receive food tray.

(4) Prepare Environment. Create an attractive environment for the patient. Be sure that no disturbing articles such as an emesis basin or urinal are in sight during meals. If there are unpleasant odors in the room, spray or place deodorizer in room. Have the room well lighted and ventilated; and at a comfortable temperature. Remember, you enjoy your meals more when there is a little "atmosphere," so will the patient. Wash your hands before serving the tray.

B. During Meals

(1) Serve the Diet Trays. Dietary personnel generally prepare the patient's tray either from a central kitchen or from the nursing unit kitchen. Usually, each tray is labeled with patient's name, room number, and type of diet. Even though dietary personnel may serve the trays, it is still *your* responsibility to see that the proper tray is served to your patient. The name on the tray label must match your patient's wristband.



If you are responsible for bringing your patients' trays, first serve those patients who are able to feed themselves. If you bring trays first to those who need help, the food for the others will be cold by the time you can return to serve them. *Serve one tray at a time* to avoid dropping or spilling liquids. When bringing a tray, remember to:

- (a) Check name and room number so that you *serve the right tray to the right patient*.
- (b) Grasp the tray on the short sides with *both* hands to avoid spilling.

- (c) Walk at moderate speed so that you can use caution and care. You will not spill the liquids on the tray and you can better avoid bumping into equipment, or other people.
- (d) When entering a room with a tray, make sure you have the proper patient by comparing his identification band with the name card on the tray before you place it in front of him.
- (e) Put tray on table with main dish closest to the patient. Remove food covers and place them on bedside table. Assist patient to butter bread, chop or cut meat and vegetables, pour beverage. Place napkin under his chin. Allow him to do as much as he can. You can proceed easily in most cases and avoid having the patient ask you for assistance.
- (f) If patient is in isolation, follow the Isolation Procedure for delivery of food trays. The Isolation Unit comes near the end of the course. You will not be assigned to Isolation patients until you have satisfactorily completed the instructional unit.



C. Feeding Adult Patients

(1) Protect the patient's clothing and bed-linens with a small towel or extra napkin. Spilling food or fluids is often embarrassing to the patient. It only makes him more aware of his inability to do for himself. Be patient and kind; reassure him that you will help him eat until he is well enough to eat by himself.



(2) Position yourself in good body alignment (see lesson, if necessary) at patient's level. If you are seated (on a high stool or chair), the patient loses his sense of hurry and some of his embarrassment over "causing so much trouble." If you stand beside him, he has the feeling you are hurrying him.

(3) There are no set rules as to the amount of each mouthful or the rate at which anyone eats. Estimate the amount of food to be placed on the fork or spoon by the patient's size and age. Older adults, as well as children, take smaller portions at a time and generally require longer to chew and swallow. Ask him which food he prefers to start with; some people start with their meat, some with their salad, others with their liquid.

(4) If the patient does not indicate when he wants fluids during his meal, offer fluids after every three to four mouthfuls of solid food. This helps the patient "wash down" food particles. If he wishes, or if it is easier for him, place a straw (preferably flexible) in the cup or glass, grasping the straw at a point near its middle, not at the end which goes in his mouth.



(5) Allow the patient (or assist him) to wipe his mouth with a napkin at appropriate intervals or as needed. Do not hurry the patient; give small bites, varying the foods. Alternate with liquid. Friendly, interested conversation also helps put the patient at ease and assists his digestion. Test hot foods by dropping a small amount on your inner wrist before feeding the patient.

D. Feeding Blind Patients

(1) Place utensils in conventional positions, since that is where he expects to find them.

(2) Tell him what foods are being served and give their locations by imagining that the plate is a clock. For example, in the diagram, the bread is at 12:00, the potatoes at 3:00, the beef at 6:00 and the carrots at 9:00.

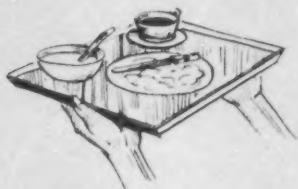


(3) Try to treat him with every possible respect, giving the help he needs inconspicuously. Occasionally patients who have had eye injuries or surgery have bandages over both eyes and they require the same procedure as a blind person. If you need to feed the blind patient, follow the procedure in the preceding item.

E. Removing Tray

Important Steps

1. Place food covers back on tray.
2. Return tray to Dietary Department.



3. Return to patient.

Key Points

Be sure all items are returned on the soiled tray.

Usually trays are returned to the unit kitchen. From there trays may be returned to the Dietary Department via a dumbwaiter or cart service. Do not leave soiled diet trays on nursing unit. The dishes and utensils must be washed and ready to serve the next meal. Few agencies have a supply of dishes large enough to permit a set on the nursing unit and also a clean set in the Dietary Department. Wash your hands.

Remove the overbed tray. Offer the bedpan/urinal or assist patient to bathroom if permitted. Offer basin and wash cloth so that he can wash his hands and face. He may want to brush his teeth after the meal, thus you must offer him the opportunity for oral hygiene. Adjust the bed and leave the patient in good

Important Steps

4. Ask if there is anything else you can do.

Key Points

body alignment. Tighten sheets, fluff pillow and attach signal cord nearby. Raise siderails (if indicated). Leave room neat and tidy.

Record observations. Charting example:

5:00 P.M. ate soft diet with vigor. Seemed extremely hungry this P.M. J. Jones, N.A.

REMEMBER:

- (a) Do not impose your eating habits on the patient.
- (b) Friendly comments now and then contribute to a pleasant atmosphere, but lengthy stories are disturbing.
- (c) Asking many questions frustrates the patient and interferes with his eating. Perhaps you remember the times when you were in the dentist's chair with various kinds of equipment in your mouth, and the dentist asked questions. How did you feel about it? This is a similar situation.

ITEM 4: WHAT YOU MUST KNOW ABOUT FEEDING CHILDREN**A. Newborn to Two Years of Age**

(1) **Procedure for Feeding Formula.** A baby should usually be held while he is being fed. Be sure to cradle his head, neck, and back. (See accompanying picture.) Holding the infant gives him a sense of security and love, both essential for sound psychological development. Without these, infants can become unresponsive, lose weight, and die.



Never prop the bottle and leave baby with it. The infant may suck in air or too much fluid too quickly, causing him to vomit. Or he may not be able to vomit the milk, and it could be sucked into his lungs (aspirated) which promptly causes a pneumonia. The result can be dangerous; this type of pneumonia could cause death very quickly.

Occasionally infants or toddlers (18 months to 3 years) may receive oxygen treatments in an oxygen tent or a Croupette. Because the act of swallowing during eating closes off the airway so that food can pass down the esophagus to the stomach, the infant needs as much oxygen as he can have. Thus, you probably will feed him while he remains in the tent; remember his needs, not yours. Reach through the armlets in the tent or Croupette (or under the edge if your equipment has no arm openings in the side) and support his head and back with your arm as you feed him. Again, this child needs the feeling of love and security that comes from physical contact as you hold him.

Formulas are usually kept refrigerated on the Pediatric and Nursing Units or are ordered

from a Central Supply area. The new prepared formulas do not need refrigeration; they are usually stored in an accessible work area near the patients rooms. The amount, type, and feeding time schedule are ordered by the doctor.

Important Steps

1. Approach the infant.
2. Obtain the bottle of formula from the storage area.
3. Test the size of the nipple holes.
4. Test temperature of formula.
5. Pick up infant.

Key Points

Wash your hands. Identify the child by reading his identification bracelet and compare it with your assignment to be sure you are feeding the correct formula to the correct child.

Check the label on the bottle to see that it is the correct formula. Check the size of the nipple holes; they should be large enough to permit the baby to get the formula without undue sucking and yet not so large that the milk runs freely. The baby may have difficulty swallowing fast enough, and could choke.

Firmly grasp bottle in right hand and turn it upside down, with the nipple toward floor. (Reverse hands if you are left-handed.) If a drop of milk gathers on the tip of the nipple, you can be assured that it is the right size. If no milk appears, or the milk flows out in a steady stream, discard the nipple and obtain a fresh one.

Some formulas are warmed to take the chill off; some are not. (Check with your agency for their procedure.) If the formula is warmed in a bottle sterilizer, invert the bottle of formula and then let a few drops fall on the inner aspect of your wrist. If it feels hot, it is too warm for the infant. Allow formula to cool awhile, then test again before feeding the baby.

Carry him like a football — with his head resting in the palm of your hand and his back lying on your arm for support. Hold him close to your body; his feet will fit between your upper arm and your chest. Pick up bottle of formula.

Important Steps



6. Seat yourself in a chair (a rocking chair is preferable).

Key Points



Place the baby's bottom in your lap, cuddle his neck and head in the bend of your elbow.



7. Insert the nipple into baby's mouth.

8. Hold bottle to avoid air bubbles.

Rub the nipple gently on the baby's cheek near his mouth. The infant will usually turn his mouth toward the nipple with his mouth open. This is called the rooting reflex and is normal for infants.

The bottle should be held at a 45-degree angle. Be sure that the milk fills the nipple end of the bottle at all times. If you allow the angle to be too great, so that only half of the nipple is covered with milk, the baby will suck air into his stomach, causing it to be distended and painful.

Important Steps

9. Remove bottle and burp or bubble the baby periodically.



10. Continue feeding.
11. Return the infant to his crib.
12. Rinse and drain bottle.
13. Record feeding.

Key Points

Usually done after every ounce of formula. Raise the baby to a cuddle position with his front side lying on your upper breast. Support his back with one hand while gently patting or rubbing his back with the other hand. This will make it easier to expel any air he might have sucked in.

Note: In some of the newer collapsible feeding bottles, the danger of the baby sucking air into his stomach is almost eliminated. Therefore, you will probably need to burp him only at the end of the feeding.

Continue until formula is gone, or until the baby seems unwilling to take more. Burp the baby if needed.

Be sure his diaper is dry; if not, change him. Position him comfortably on his side. Be sure that side rails are up.

Return it to service area. Tidy work area.

Make notation on appropriate chart forms. Charting example:

11:00 A.M. 4 oz. Similac taken very eagerly. Burped. Diapered. Returned to crib.

J. Jones, LVN

(2) **Procedure for Feeding Solid Foods.** Cereals, vegetables, and fruits are usually the first foods introduced to the infant. A small amount of food (usually baby food which comes already prepared in cans or jars) is given with an infant feeding spoon. The spoon should be placed well into the baby's mouth, then pulled outward and upward. If food is not placed well into his mouth, he will push it out again. This is a reflex called the retrusion tongue reflex; it can be demonstrated by placing a solid or semisolid substance in the front portion of the mouth; the substance will be pushed out almost as quickly as it is placed in the mouth.

When the child is between 6 and 12 months old, he becomes fascinated with his food. He wants to touch it, play with it, stick it in his hair, etc. *Do not* leave a child for an instant with food in front of him. If you do, guess where you are likely to find it?

B. Feeding the Toddler (18 to 36 Months of Age)

The toddler eats the same food as an older child except that the toddler's meats and vegetables are usually diced or chopped. The early toddler (18 to 24 months) likes to feed himself, and therefore "finger-foods" are introduced. These are items such as diced cooked carrots and chopped beef that the child can feed to himself. During this time, he generally

drinks out of a cup. *Do not* serve his liquids in glass containers; at this age he likes to chew and may bite down on a glass. If the child refuses a cup, try offering him a bottle; it may make him feel more secure during his illness.

The older toddler (24 to 36 months) may try to use a utensil to eat with; start with a spoon, not a fork. The fork tines may poke his mouth or gums and prove painful and frustrating for him.



C. Feeding the Preschool Child (3 to 6 Years)

This age group eats the same foods as the toddler, only in greater quantity. He generally eats with a "junior" fork and spoon, which are smaller than regular utensils. He enjoys eating with other children his age. It is well to have several children eat their meals together at small tables and chairs. Socializing (talking) at mealtimes helps him learn how to act and handle his utensils.

D. After Meals

1. Record intake. Before the tray is removed, write down the amount of fluids taken in on the Intake and Output form. Also check to see if the patient ate well, moderately well, or poorly. Record this on the nurse's notes. (You will practice charting as a part of this unit after you complete this section.)
2. Remove tray to kitchen or dietary cart. Try not to leave a tray in patient's room for an extended period of time; it is unsightly and distressing to the patient. Also, the dietary workers have a cleaning schedule for trays. The tray must be clean and ready for serving the next meal.
3. Return to the patient and offer a bedpan/urinal or assist him to the bathroom following a meal.
4. Provide mouth and hand care. Some patients brush their teeth and wash their hands following a meal. Provide this opportunity for them. It is a good health practice.

ITEM 5: HINTS FOR FEEDING CHILDREN

Do Not

- Hurry the child.
- Punish him for spilling.
- Allow him to drink all his milk first.
- Leave him unattended by an adult.
- Place dessert on tray until other foods are eaten.
- Prop baby's bottle and leave.

Do

- Praise him at the end of the meal.
- Provide opportunities for socializing, if possible.
- Promote and encourage good eating habits.

ITEM 6: PRACTICE CHARTING

Important Steps

1. Obtain correct chart forms.
2. Take materials to desk.
3. Practice charting on scratch paper or on sample forms.
4. Have practice charting reviewed.
5. Practice measuring your patient's food intake and recording it on the nurse's notes.
6. Verify correctness of practice charting.
7. Transfer practice charting to patient's chart.

Key Points

Obtain sample chart forms, pen (blue or black), and scratch paper from instructor or supervisor. (In the work setting, chart forms are usually stored at the chart desk in the nurse's station.) Blue or black ink is used on the chart forms since either can be easily detected on microfilm or microfiche charts (red ink is not detected). To simplify storage systems of medical records, each chart is stored on microfilm (a film of a photographic record which is reduced in scale to a printed form) or microfiche (a newer process of miniaturizing written material for a simplified storage system).

Work area should be well lighted and free of loud noises and confusion.

Because the chart is a legal document, errors must be kept at a minimum. Practice concise, correct charting on scratch paper.

Your instructor or supervisor should review your practice work for legibility, correctness, conciseness, and completeness.

Remember to give all vital information, e.g., did he eat all of his food; what kind of a diet is he on?

Have your instructor or supervisor check the charting for correctness of information, spelling, terms, and legibility. When you have been given permission, you may proceed to the next step.

Copy accurately. Review your copied chart for completeness and accuracy.

POST-TEST

1. Name the four basic food groups:

(1) _____ (2) _____

(3) _____ (4) _____

2. List at least three nursing measures (responsibilities) to be offered patients before meals:

(1) _____

(2) _____

(3) _____

3. Foods are the sources of three main elements called _____, _____, and _____.

4. Complete the following from the Hints for Feeding Children:

Do not: _____

Do not: _____

Do: _____

Do: _____

Indicate in the column at the left whether the statements are True (mark "T") or False (mark "F").

- ___ 5. You must feed all blind patients.
- ___ 6. A small packet of salt is acceptable for patients on low-sodium diets.
- ___ 7. Milk is not allowed for patients on a clear or surgical diet.
- ___ 8. Eating habits are culturally learned.
- ___ 9. It is a nursing responsibility to see that patients receive the proper trays.
- ___ 10. Baby bottles may be propped for feeding.
- ___ 11. Toddlers should be left alone to enjoy their meals.
- ___ 12. Warming formulas is only done to take the chill out of them.
- ___ 13. A child's first utensil for feeding himself is a fork.
- ___ 14. Offer the patient fluids only after he has finished all the solid foods.

POST-TEST ANNOTATED ANSWER SHEET

1. (1) meat, poultry, fish
(2) milk and milk products
(3) cereals and cereal products
(4) vegetables and fruits (p. 344)
2. (1) Provide for elimination
(2) Give patient hand and mouth care
(3) Position the patient
(4) Prepare the environment (pp. 346 and 347)
3. Proteins, carbohydrates, fats (p. 345)
4. **DO NOT:** Hurry the child.
Punish him for spilling items.
Allow him to drink all of his milk first.
Leave him unattended by an adult.
Place dessert on tray until other foods are eaten.
Prop baby's bottle.

DO: Praise him at end of meal.
Provide opportunities for socializing.
Promote and encourage good eating habits.
5. F (p. 349)
6. F (p. 345)
7. T (p. 345)
8. T (p. 346)
9. T (p. 347)
10. F (p. 350)
11. F (p. 354)
12. T (p. 351)
13. F (p. 354)
14. F (p. 349)

PERFORMANCE TEST

In the skill laboratory you will feed your student partner, keeping in mind patient and tray identification procedures. Do not impose your eating habits on the patient, and provide a pleasant environment for him to enjoy his meal.

At the completion of the meal you will record pertinent information on sample nurse's notes.

PERFORMANCE CHECKLIST

ASSIST WITH NUTRITION

1. Provide for elimination before meal.
2. Give mouth and hand care before meal.
3. Position patient and over-bed tray before meal tray is served.
4. Prepare environment (tidy room, remove emesis basins, bedpans, or urinals from site).
5. Wash hands before serving tray.
6. Serve tray without spilling contents. Match tray label with identification band.
7. Place napkin under patient's chin. Prepare food.
8. Position self in good body alignment (standing or sitting) to feed patient.
9. Test hot foods on inside of wrist.
10. Give moderate-sized bites of food. Alternate liquids with solids (1:3 or 1:4). Ask patient's preference for order of eating, i.e., salad, meat, etc.
11. Feed slowly, giving patient ample time to eat. Carry on pleasant conversation.
12. Assist with elimination, oral hygiene, and face and hand care on completion of meal.
13. Return all dietary items to appropriate area — immediately after completion of the meal.
14. Leave patient neat, tidy, and comfortable. Attach call signal.
15. Tell patient time of return.
16. Chart observations on practice nurse's notes.

Unit 18

FLUID INTAKE AND OUTPUT (I AND O)

I. DIRECTIONS TO THE STUDENT

Proceed through this lesson. When you have finished, take the post-test. See your instructor about an appointment to demonstrate the measuring and recording of fluids.

II. GENERAL PERFORMANCE OBJECTIVE

When you have finished the unit, you will be able accurately to measure oral fluid intake and fluid output, and maintain records as required for determination of fluid balance.

III. SPECIFIC PERFORMANCE OBJECTIVES

Following this lesson, you will be able to:

1. Identify all food items that should be measured as fluid intake.
2. Correctly convert volumetric measurements from English and household units to metric units.
3. Measure fluid volume accurately with a graduated container.
4. Give instructions appropriate to the condition and sex of a patient for voiding of bodily wastes in a manner that will permit their measurement.
5. Keep accurate quantitative records of oral fluid intake and fluid output and make determinations of total I and O as required by physician's orders.
6. Record appropriate qualitative observations on fluid output.
7. Recognize, note, and report symptoms of edema and dehydration, and conditions of unusual or excessive fluid output.
8. Define frequently used terms that refer to mechanisms and conditions of fluid balance.

IV. VOCABULARY

anuria — failure of kidney to secrete urine; total lack of urination.

ascites — collection of fluid in the peritoneal or abdominal cavity.

bladder — a hollow muscular reservoir in the lower abdominal cavity for temporary storage of urine before it is expelled from the body.

dehydration — process that occurs when output of water from the tissues exceeds water intake.

diaphoresis — profuse sweating.

diuretic — agent or medication which increases the secretion of urine.

edema — a condition in which the body tissues contain an excessive amount of fluid, causing swelling of the tissue. May be localized or generalized in the body.

force fluids — a special order requiring patient to take in an additional amount of fluids in short periods of time. Often used in cases with fever.

hypodermoclysis — the injection of fluids into the tissues just below the skin (subcutaneous) to supply the body with liquids when fluids cannot be taken by mouth or IV; commonly called clysis.

kidney — one of two glandular, bean-shaped bodies situated at the back of the abdominal cavity, one on each side of the spinal column, just below the waist, which excrete urine (liquid waste matter).

nourishments — extra foods, usually liquids, given between meals to supplement the diet (e.g., milk, fruit juices, crackers, ice cream, cookies).

oliguria — diminished amount and frequency of urination.

polyuria — excessive secretion and discharge of urine.

urethra — a small tube approximately $\frac{1}{4}$ inch in diameter, $1\frac{1}{2}$ inches long in the female and 8 to 9 inches long in the male. It extends from the bottom end of the bladder to the outside of the body; the urine is expelled through the urethra.

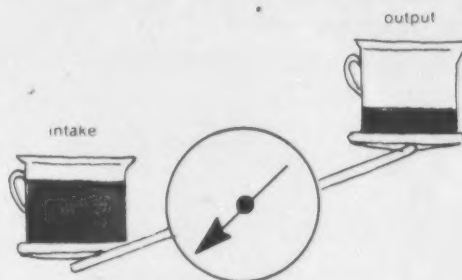
urine — the liquid wastes filtered from the blood by the kidneys, stored in the bladder, and discharged through the urethra.

V. KNOWLEDGE BASIC TO THIS LESSON:

ITEM 1: WHY ARE FLUIDS IMPORTANT?

In the adult, approximately 60 per cent of body weight is comprised of fluids and 40 per cent of solids. In the newborn, 75 per cent of the body is fluid and only 25 is solids.

In health, water intake is balanced against water loss. In other words, in a day's time, as much fluid is taken in as is excreted. In illness, this may not be so. Since most of the body tissue, both in infants and adults, consists of fluids, it becomes of prime importance when nursing the ill to promote and maintain the fluid balance.



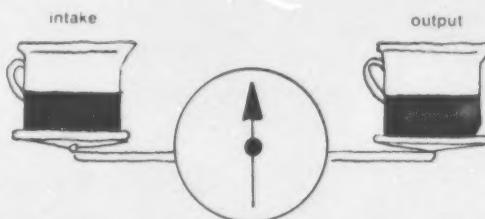
Causes for fluid imbalance are: excessive consumption of liquids and food; limited output of urine and perspiration.

Fluid balance may be promoted by:

1. Providing oral fluids according to individual needs.
2. Measuring and accurately reporting fluid intake and fluid loss, thus informing the doctor if the patient is not maintaining an adequate fluid balance. He can then order fluids given by some other route, usually intravenously.

Fluid intake may be administered by the following routes:

1. Intravenously — into the vein.
2. Orally — by mouth.

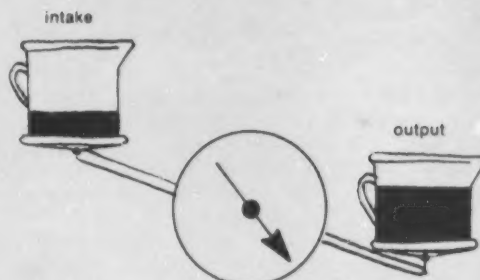


Fluid balance is achieved by normal intake of fluids as well as by normal breathing. Normal output is achieved by breathing, perspiration, urine, and feces.

3. Hypodermoclysis — into the tissue under the skin (subcutaneous); primarily used for children and elderly patients.

Fluid output is produced by

1. Urine
2. Sweat
3. Feces
4. Respirations
5. Vomiting



When intake is less than output, fluid imbalance also occurs. This may be due to restricted intake of liquids and food or excessive output of urine, vomitus, blood, drainage, and perspiration.

In this lesson, we will be concerned mainly with oral intake and urine output. Urine may be defined as the fluid filtered from the blood by the kidneys, stored in the bladder, and discharged, usually voluntarily, through the urethra. In health, the color of urine varies from a yellow straw to a light amber.

The amount of urine produced is influenced by:

1. Amount of fluid intake.
2. Body temperature: fever increases sweating and decreases urine.
3. Emotional stress: changes in blood pressure affect urine production.
4. Pain: usually decreases urine production.
5. Age: infants produce three to four times more urine for their weight than adults.
6. Condition of the kidneys.
7. Various disease conditions.

There are two main symptoms of fluid imbalance called *edema* and *dehydration*. Edema is a condition in which the body tissues retain an excessive amount of tissue fluid. Symptoms of edema include:

1. Weight gain.
2. Swelling of subcutaneous (beneath the skin) tissues, particularly feet, ankles, face and fingers.
3. Ascites: abdominal distention.
4. Anuria: lack of urine.
5. Oliguria: diminished amount and frequency of urination.

Dehydration occurs when the output of fluid exceeds fluid intake. The symptoms of dehydration include:

1. Thirst
2. Dry skin and mucous membranes.
3. Constipation
4. Oliguria.
5. Fall in blood pressure with a weak, rapid pulse.

By now, you should know why fluid balance is extremely important. Explain:

ITEM 2: MEASURING

Oral Intake. The average active adult requires from 2000 to 3000 ml. (cc.) of fluid per day; i.e., 2 to 3 quarts. Some agencies use cc's or cubic centimeters synonymously with ml. (milliliters). See Appendix A for conversions.

Generally, the physician orders the recording of I and O for his patient. He sometimes limits the amount of fluid the patient may have in a 24-hour period. If a limit was ordered, check with your team leader or RN for the amount you must give during your eight hours of duty. *Do not guess!*

Know how much fluid is contained in a water pitcher and in dietary dishes. This information may be obtained from your team leader or from the dietary personnel. There may be some minor variations from agency to agency.

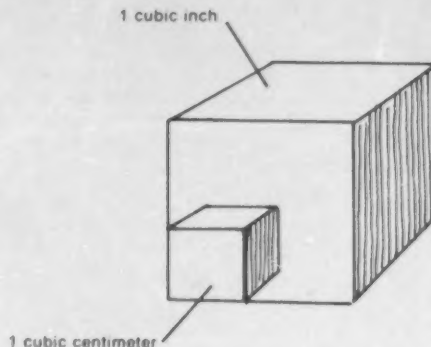
To check the oral intake at meal times, you must look at the tray before it is removed from the patient's room. *Don't* count on the patient or dietary personnel to tell you. This is *your* responsibility. The fluids you must measure on the tray include: Water, coffee, tea, Jello (gelatin), ice cream and sherbet, carbonated drinks, wine, consommé, juices, milk, cream, milk shakes, infant cereals, broth or soup.

Because dietary items are served in household measures (cups, bowls and glasses), you will have to convert these into ml. measurements. List them in numbers of ml. (or cc.), and record the time they were taken. Some agencies also request you to list the type of fluid, e.g., orange juice 180 ml. or cc. Write this in column headed as *Intake* on the I and O record. The method of measuring the amount the patient drinks from the water pitcher may be one of the following: Record each amount of liquid the patient drinks.

Measure the amount left in the water pitcher and subtract it from the amount in a full pitcher. (*Note:* Each agency usually displays the content values of their receptacles, such as glasses, pitchers, etc.) See sample at end of unit from St. John's Hospital, Santa Monica, Calif. Follow your agency policy on this procedure.

If the patient can take only ice chips by mouth, ask your team leader or dietitian to determine the number of ml. per ice chip. However, you may estimate that there are approximately 5 ice chips to an average ice cube (see Appendix A for ml. in average ice cube).

At the end of your 8-hour tour of duty, you will add the total intake and write the amount on the I and O record. Some patients are ordered to be on 2 to 4 hour I and O. If so, you would add intake every 2 to 4 hours and enter it on the record.



Fractions: $\frac{1}{2}$ bowl of soup; $\frac{2}{3}$ glass of milk
Metric: $180 \text{ cc.} \div 2 = 90 \text{ cc.}$
 $240 \text{ cc.} \div 3 = 80 \text{ cc.}$

ITEM 3: URINE OUTPUT

Generally, urinary output ranges between 30 ml. (cc.) (one ounce) to 500 ml. (cc.) (one pint) per hour. The average urinary output in a 24-hour period is 2600 ml. (cc.); you should report an output of less than 500 ml. (cc.) in a 24-hour period. (In health, urinary output is approximately equal to the volume of liquids taken in.)

To measure urinary output, pour the urine from the bedpan or urinal into a measuring cup, commonly called a "graduate." Place the cup on a flat surface for accurate measurement. Note the level reached by the top of the fluid. Record under column marked *Output*. Designate the time and the amount in ml. (cc.). If you notice when pouring the urine in the toilet that it is a different color from the usual yellow or amber, or smells sweet or sour, note this on patient's chart. Describe color, amount, and odor, and report it to your team leader immediately.



If the patient is ambulatory, be sure to tell him that you are measuring his urine output. Ask him to urinate either into a urinal or bedpan (placed under the toilet seat) or to use a measuring cup and save the urine for you to dispose of later. If the patient has diarrhea, you may follow the same procedure as with urine, for it, too, is excreted fluid. If he has vomited in a container, measure the contents as output. If not, estimate the amount of vomitus as small, moderate, or large. Describe color and odor on nurse's notes. If a patient has diarrhea, or is vomiting or sweating profusely (diaphoresis), indicate this in the nurse's notes and report to your charge nurse. Also, if these conditions are present, the patient may have less urinary output because he is losing fluid through these other routes. You will practice recording these remarks on a sample of the nurse's notes and I and O sheet at the completion of this lesson.

Given a patient who has been placed on I and O, you will instruct him in the agency procedure, and you will practice measuring and recording intake and output.

Preliminary to the Steps

Find out if patient is on I and O.

Ask if a conversion table is available.

Determine from your team leader or Kardex if patient is on I and O, and which time interval: every 2, 4 or 8 hours? Determine the specific amount to be given within your 8-hour tour of duty (sample of the Kardex is included with this unit).

Ask team leader if there is a list with which to convert household measures to ml. If not, you might ask the team leader to obtain one from Dietary.

Important Steps

1. Instruct patient on the recording of his intake.

2. Check water pitcher when beginning tour of duty.

3. Check fluids at meals and nourishment times.

4. Record intake.

5. Measure output.



Key Points

Explain to patient that all the fluids taken in (by mouth, IV, clysis) and fluid output are to be measured. Ask him to urinate or void in a graduate, bedpan, or urinal, and *not to flush it down the toilet*. Some patients will record their own intake. If so, provide a pencil and the record for the patient. This may be done *if it is an acceptable agency policy*.

Place an I and O Record in the patient's room. This is determined by the agency policy. Write patient's name, room number and date on the form. (Sample forms are included at the end of this unit.) Remember — items included as intake are: water (H_2O), Jello (gelatin), ice cream, carbonated drinks, consomme, milk, milk shakes, broth or soup, coffee, tea, sherbet, wine, juices, cream, infant cereals.

Some agencies have the off-going personnel fill water pitchers — if so, check to see if it is full and how many ml. (cc.) it holds; each agency has its own measurement-equivalent charts. If not done, and patient is not on restricted fluids, fill pitcher with fresh water. *Remember to check to see if patient is NPO (nothing by mouth) for surgery or tests.*

Check the patient's tray *before* removing it from the room. Check amount of fluids taken in, convert household measures to ml. (cc.) and record on Intake Record. If your agency prefers, record amount, type of fluid, and time taken.

Intake may be totaled and recorded every 2, 4, or 8 hours on the patient's chart, either on the IV sheet or the nurses' notes (check your agency procedure). The fluid in the water pitcher may be recorded by the number of glasses of water taken or by subtracting the amount left in the pitcher from the total amount it holds. Follow your agency policy.

If patient is ambulatory, remind him that you are measuring his output, and he must save all output for you to measure and record. Ask male patients to void or urinate in urinal (which you can leave in bathroom) or in the graduate. For female patients, either place the bedpan under the toilet seat or ask the patient to void in the measuring cup (graduate). Pour urine into graduate. Place graduate on flat surface. Read the number at the *top* of the fluid level.

Important Steps

6. Record output.

7. Dispose of output.

Key Points

Record output on the I and O Record each time the patient urinates so you don't forget. *Remember*, if patient vomits into basin, or has diarrhea in a bedpan, you should measure these the same as urine. *Be sure* to indicate if the output is urine, diarrhea or vomitus. In the nurse's notes, make comment if patient sweats profusely (diaphoresis) for this, too, is output.

If a specimen is not needed for analysis, pour the output into the toilet. Pour cold water into the graduate, rinse and empty into the toilet — *Not the sink*. Flush the toilet. Return the container to the storage area — usually in the bedside stand.

Practice Charting Intake and Output**Important Steps**

1. Obtain correct chart forms.

2. Take materials to desk.

3. Practice charting on scratch paper or on sample forms.

4. Have practice charting reviewed.

5. Practice charting your patient's I and O on the nurse's notes and the I and O sheet.

6. Verify correctness of practice charting.

7. Transfer practice charting to patient's chart.

8. Practice other procedural entries on the nurse's notes, e.g., bath given, backrub given, enema given, post-mortem care given.

Key Points

Obtain sample chart forms, pen (blue or black), and scratch paper from instructor or supervisor. (In the work setting, chart forms are usually stored at the chart desk in the nurse's station.) Blue or black ink is used on the chart forms because both can be easily detected on microfilm or microfiche charts (red ink is not detected). To simplify storage systems of medical records, each chart is stored on microfilm (a film of a photographic record which is reduced in scale to a printed form) or microfiche (a newer process of miniaturizing written material for more simplified storage systems).

Work area should be well lighted and free of loud noises and confusion.

Because the chart is a legal document, errors must be kept to a minimum. Practice concise, correct charting on scratch paper.

Your instructor or supervisor should review your practice work for legibility, correctness, conciseness, and completeness.

Remember to give all vital information, e.g., date, time, amount, color, odor, and type of liquid.

Again, have your instructor or supervisor check the charting for accuracy of information, spelling, terms, and legibility. When you have been given permission, you may proceed to the next step.

Copy carefully. Review your charting for completeness and accuracy.

Remember to practice your charting on scratch paper or on sample forms. Verify charting with your instructor or supervisor before transferring

Important Steps

9. Tidy practice area.
10. Continue practicing charting procedures until you are accurate and speedy in recording your comments.

Key Points

it to the actual chart. Print legibly with a blue or black ink pen. Use only approved abbreviations. Sign your name and title (J. Doe, NA; J. Doe, LVN; or J. Doe, RN).

Return supplies to proper place. Discard waste materials in wastebasket. Leave your work area neat and clean.

VII. ADDITIONAL INFORMATION FOR ENRICHMENT

Your instructor will give additional reading assignments if you are interested in learning more about fluid balance for your patient.

Accurate measurements and recordings of Intake and Output amounts are critical for some patients and are vital for patients for whom these procedures are ordered. Your strict attention to the accurate measurement and recording of the information is a clear indication to the patient of your concern and interest in his welfare. The information is also extremely valuable and necessary to the physician so that he can prescribe further therapies for his patient. Be alert and accurate.

APPENDIX A

CONVERSION TABLE

Metric Measurement	Apothecary Measurement	Avoirdupois Measurement
1 ml. or 1 cc.	15 minims	
4 ml. or 4 cc.	60 minims	1 teaspoon
30 ml. or 30 cc.	1 fluid ounce	1 ounce
500 ml. or 500 cc.	1 pint	
1000 ml. or 1000 cc.	1 quart	
240 ml. or 240 cc.	1 cup (8 ounces)	
15 ml. or 15 cc.	1 tablespoon	
4 ml. or 4 cc.	1 teaspoon	
40 ml. or 40 cc.	1 average size ice-cube (equal to 10 teaspoons)	
	5 ice-chips to 1 ice-cube	

Note: Because different agencies use dishes of varying sizes, be sure to ask for a table converting household measures to metric (cc. or ml.) measures used in your agency.

POST-TEST

Situation: Your patient is an adult male. His intake and output are to be recorded every four hours. Total intake and output were last recorded at 12 noon. At 12:30 P.M. the patient had lunch. He was served a bowl of soup (10 ounces), a cup of Jello (gelatin) (8 ounces), and one-half pint of milk. When you removed the tray, the milk and Jello (gelatin) had been consumed. Six tablespoons of soup remained in the bowl. His water pitcher at noon contained 900 ml. At 2:00 P.M. he urinated; you measured his output as 25 ml. At 3:00 P.M. he urinated again; you measured his output as 35 ml. At 3:15 P.M. he vomited into a container; you measured the amount as 80 ml. At 4:00 P.M. you checked his water pitcher; it contained 600 ml. of water.

- The patient's fluid intake at lunch should be recorded as:
 - _____ ml. of soup
 - _____ ml. of milk
 - _____ ml. of Jello (gelatin)
- You should record his total intake and output for the period from _____ to _____ at _____.
- His total fluid intake for this period is _____ ml.
- His total fluid output for this period is _____ ml.
- His urinary output indicates that he might have _____.
- If you have an ambulatory patient on Intake and Output, you should: (check the correct items only)
 - _____ remove his water pitcher so that his fluid intake can be controlled.

- b. ____ tell him not to drink any fluids during the night.
- c. ____ make sure he has a container in which to urinate.
- d. ____ tell him to inform you whenever he needs to urinate.
- e. ____ tell him to not flush his urine down the toilet.
- * f. ____ provide the patient with materials for recording his own urinary output if this is agency policy.
- g. ____ if the patient is NPO, allow him to drink only water.
- h. ____ if the patient vomits, note the color and odor of his vomitus.
- i. ____ if the patient sweats profusely, note the color and odor of his sweat.
- j. ____ measure and record all fluid intake except what the patient drinks at regular meals.
- k. ____ if a urine specimen is not needed for analysis, pour the urine into the toilet and rinse out the graduate into the sink.

7. When you measure or observe the amount of urine or vomitus, you should also observe its _____ and its _____ and describe these observations in your _____.

8. Indicate by checkmarks which of the following items should be included among a patient's fluid intake:

- | | | |
|----------------|---------------------|------------------|
| a. water ____ | e. custard ____ | i. spinach ____ |
| b. tea ____ | f. gelatin ____ | j. noodles ____ |
| c. milk ____ | g. fruit juice ____ | k. cheese ____ |
| d. apples ____ | h. ice cream ____ | l. potatoes ____ |

9. Indicate by checkmarks which of the following are factors that affect the amount and rate of urine production:

- | | |
|----------------------|--------------------------|
| a. fluid intake ____ | d. pain ____ |
| b. dehydration ____ | e. body temperature ____ |
| c. body weight ____ | f. kidney disorders ____ |

POST-TEST ANNOTATED ANSWER SHEET

1. a. 210 (p. 367)
b. 250
c. 240
2. 12 noon to 4:00 P.M.; 4:00 P.M. (p. 364)
3. 1000 (367)
4. 140 (367)
5. edema (361)
6. c, d, and e (p. 363)
7. odor, color, nurse's notes (363)
8. a, b, c, e, f, g, and h (362)
9. all (361)

WORKSHEET

Directions: For this exercise you will need the Oral Intake and Output Unit, an Intake/Output Bedside Record, a pen, water, and the equipment set-up in the skill laboratory for these experiments.

A. Identify the *paper cup*. Fill it to the top. Using a graduate pitcher to measure, answer the following:

1. How many cc. does it hold? _____
2. How many cc. would be needed to fill the paper cup half-full? _____
3. Fill it half-full and note the level. Repeat the procedure for one-third full _____ and two-thirds full. _____

B. Identify the *water glass*. Fill it to the top. Answer the following:

1. How many cc. does it hold? _____
2. Number of cc. when one-third full? _____
3. Number of cc. when half full? _____
4. Number of cc. when two-thirds full? _____

Fill the glass to each of the above levels and note the water level.

C. List four items that you would be recording on the *I* and *O* sheet.

1. _____
2. _____
3. _____
4. _____

D. 1. Refer to the Bedside Intake/Output sheet and record how many cc. the soup bowl will hold. _____

2. Fill the soup bowl with this amount to check your answer. If the patient drank all but *four* tablespoons of his soup, how many cc. would he have consumed? (1 tbs = 15 cc.) _____

3. How many cc. would be left in the soup bowl? _____

E. Refer to the Bedside Intake/Output sheet and fill the water pitcher *half* full.

1. How many cc. would this take? _____
2. How many cc. would be needed to fill the water pitcher two-thirds full? _____
3. How many cc. would be needed to fill the water pitcher one-third full? _____
4. How many cc. would be needed to fill the water pitcher one-fourth full? _____

F. Refer to the Bedside Intake/Output sheet and note the cc. contained in a small (sm) emesis basin and in the standard (std) emesis basin.

1. Record in cc. the difference in amounts between a small emesis basin and a standard emesis basin. _____
2. If a patient vomited 250 cc., how full would a standard emesis basin be? _____ Fill the basin with this amount of water to check your answer.

INTAKE - OUTPUT RECORD

BEDSIDE RECORD

Mrs. JANE ROWE
PATIENT'S NAME

333
ROOM NO.

INTAKE		INTRAVENOUS SOLUTIONS		OUTPUT	
7-3:30 LIQUIDS	C. C.	C. C.	VOIDED	EMESIS	DRAINAGE ETC.
8 ⁰⁰ fruit juice	100cc.	1000 cc.	7 ³⁰ 900cc.		
9 ³⁰ water	210cc.	5% D/W			
11 ¹⁵ water	210		11 ⁰⁰ 500cc.		
11 ³⁰		500cc.			
12 ¹⁵ coffee	180cc.	5% med.	2 ⁰⁰ 400cc.		
3-11	700	1500	1200		
11-7					

EQUIVALENTS

CUP	180 CC	SOUP BOWL	CHILD'S	110 CC
PAPER CUP LG	210 CC	SOUP BOWL	ADULT'S	190 CC
PAPER CUP MED	150 CC	SOUP BOWL	LARGE	210 CC
WATER GLASS	210 CC	WATER PITCHER		350 CC
FR JU GLASS	150 CC			
TEA POT	250 CC			
JELL	100 CC	EMESIS BASIN	STD	500 CC
ICE CREAM	120 CC	EMESIS BASIN	SM	200 CC

SAINT JOHN'S HOSPITAL
SANTA MONICA, CALIFORNIA

Mrs JANE ROWE RN.
333

INTAKE AND OUTPUT SUMMARY

#1279356 Dr. Doe

	Oral Fluids c.c.	Parenteral Fluids c.c.	Weight of Patient	Urine c.c.	Emesis c.c.	Drainage (Wangen- stein) etc. c.c.	Excess persp., diarrhea or hemorrhage	Total Intake c.c.	Total Output c.c.
Date: 3/15/72									
7-3	700cc.	1500cc.		1200cc.	0	0	0	2200cc.	1200cc.
3-11									
11-7									
TOTAL - 24 Hour Period									
Date: 3/16/72									
7-3									
3-11									
11-7									
TOTAL - 24 Hour Period									
Date: 3/17/72									
7-3									
3-11									
11-7									
TOTAL - 24 Hour Period									
Date: 3/18/72									
7-3									
3-11									
11-7									
TOTAL - 24 Hour Period									
Date: 3/19/72									
7-3									
3-11									
11-7									
TOTAL - 24 Hour Period									

PERFORMANCE TEST

For this test you will need the following equipment.

1. I and O record form.
2. Graduated container.
3. A set of bottles or any containers, arranged in random order, each containing some quantity of water previously measured and recorded by the instructor, and labeled as follows:
 - (a) Urine specimen 2:30 P.M.
 - (b) Urine specimen 3:45 P.M.
 - (c) Urine specimen 4:30 P.M.
 - (d) Vomitus 3:00 P.M.
 - (e) Water pitcher: Contents as of 4:00 P.M.
Filled to 2000 ml. capacity at 2:00 P.M.
 - (f) One pint of orange juice
4. Toilet and sink available for use in test.

Instructions to student: You have a patient on 2-hour I and O. His record is complete through 2:00 P.M., which is the end of the last I and O period. The sample form as filled out represents his I and O since 2:00 P.M. You are to measure and record his I and O in the order in which they normally would have been recorded according to the times shown on the labels on the bottles. Carry out all operations just as you would if these were actual specimens. You have 20 minutes to complete this assignment.

PERFORMANCE CHECKLIST**ORAL INTAKE AND OUTPUT**

1. Measure and record intake and output in correct sequence (as indicated by time tables).
2. Measure each output specimen correctly and enter results in ml. or cc. in correct column.
 - A. Clean and store equipment appropriately.
3. Convert pint measurement correctly to ml. or cc.
4. Measure contents of water pitcher correctly and calculate water intake correctly — refill as required.
5. Calculate and enter correct totals for 2:00 to 4:00 P.M. intake [(e) and (f)] and output [(a), (b), and (c)].
6. Measure and record 4:30 P.M. urine specimen after calculation and entry of 2:00 and 4:00 P.M. totals.
7. Make complete record on I and O form for 2:00 to 4:00 P.M.
8. Complete assignment within time limit of 20 minutes.

Unit 19

OBSERVING INTRAVENOUS THERAPY

I. DIRECTIONS TO THE STUDENT

Proceed through the following lesson. Demonstrate your ability to assist with IV's in the skill laboratory in the presence of your instructor.

In the laboratory you will need:

1. An armboard.
2. Non-allergic tape.
3. IV bottle and tubing.
4. Adult mannequin in patient gown.
5. Infant mannequin.
6. Soft restraints.

Your instructor will be testing you on your demonstration.

II. GENERAL PERFORMANCE OBJECTIVE

When you have completed this lesson, you will be able to give daily care to a patient who is receiving IV therapy. You will apply good safety measures throughout the procedure.

III. SPECIFIC PERFORMANCE OBJECTIVES

Following this lesson, you will be able to:

1. Give daily care (bath, dress/undress, meals, etc.) to a patient with an IV.
2. Assist patient to ambulate with an IV.
3. Recognize the need for professional assistance while caring for a patient receiving IV therapy.
4. Practice proper safety precautions for the patient receiving IV therapy.

IV. VOCABULARY

acidosis — a condition in which the acid-base chemistry of the body is unbalanced; acidity increases beyond normal, i.e., diarrhea, diabetes.

alkalosis — a condition in which the alkalinity, or base balance, of the body tends to increase beyond normal; an excess of alkalies or decrease of acid in the blood, i.e., in hyperventilation.

amino acids — the end-products of protein digestion; there are 22 known amino acids.

glucose (dextrose) — solution of sugar and water or saline. Commonly given intravenously as a nutrient.

infusion — (Latin = in fundere) to pour into, commonly associated with a vein, e.g., introducing liquids into the vein.

intravenous infusion (IV) — giving of large amounts of fluids into the veins (from 500 cc., 1 pint to 1000 cc., 1 quart).

intravenous injection — term used for giving a small amount of drug into the vein (5 to 20 cc.).

IV — abbreviation for intravenous (within the vein).

parenteral — materials introduced into the body by other than the intestinal tract (orally), e.g., intravenously.

saline — solution of sodium chloride (NaCl) or salt and distilled water, a solution frequently given intravenously. It is also used as an irrigating solution to wash tissues or wounds.

transfusion — giving of blood or its component parts (e.g., plasma, serum, packed cells) from one person to another.

V. KNOWLEDGE BASIC TO THIS LESSON

ITEM 1: WHY ARE IV'S GIVEN?

IV's are given to supply the body with elements needed which cannot be supplied as rapidly or efficiently by other means. These elements may be:

1. Blood, plasma, or other blood components.
2. Nutritional requirements in the form of glucose, amino acids, or salines to prevent a metabolic crisis such as acidosis or alkalosis.
3. Fluids and salts when the patient is unable to receive enough of these by mouth (orally).
4. Medications which the patient is unable to take by any other means.

ITEM 2: WHO STARTS IV'S OR BLOOD TRANSFUSIONS?

The amount and type of fluid to be given within a specific time period are *always* ordered by a physician. The agency policy dictates who is to start an IV, hang subsequent bottles, and terminate an IV. Usually, these are the responsibilities of the licensed registered nurse who has had special IV training, or the physicians.

ITEM 3: DAILY CARE OF PATIENT WITH IV'S OR BLOOD TRANSFUSIONS

Bathing. IV needles, and special IV needles and tubing, are usually inserted in the arm at the elbow, or in the veins of the back of the hand or wrist. The most common sites are in the bend of the elbow, the back of the hand, and in the scalp of an infant.

Gently wash around the area of the needle without dislodging the tape holding the needle secure in the vein. Do not neglect to wash the patient's fingers and give nail care according to your previous lessons.



Dressing and Undressing. (Remember, you had this procedure in the unit on assisting the Patient to Dress and Undress.) Sleeveless night-gowns have large enough armholes to thread IV bottle and tubing through them.

Note: Some agencies have special gowns which have one sleeve open. It is secured on the patient's arms with ties (see illustration at right).



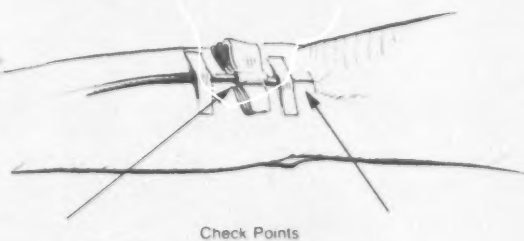
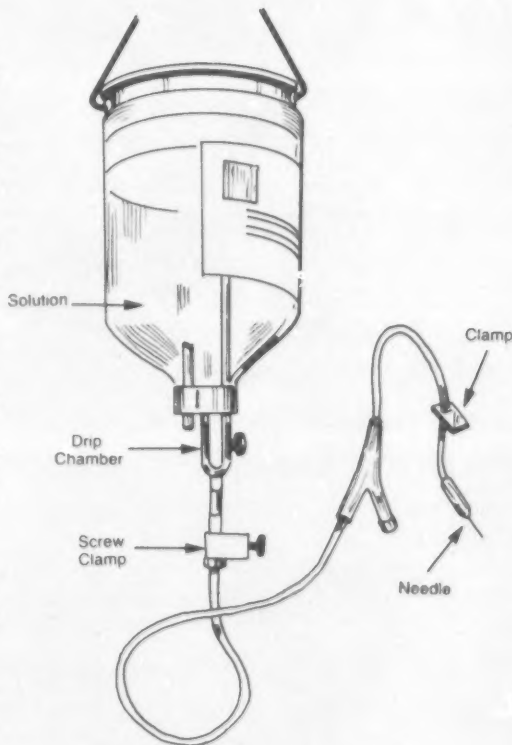
ITEM 4: SAFETY PRECAUTIONS

Although most agencies do not allow you to adjust the rate of flow of an IV, you should be aware of it as a safety precaution.

There are two kinds of drip chambers. One is called a macro-drip (macro means large) and the other is a micro-drip (micro means small). There are four micro-drips to every one macro-drip. Micro-drip chambers are used for infants in whom the amount of fluid taken must be exceedingly exact. Check with your team leader for the kind of drip chamber being used and how many drops per minute the fluid will run.

When a patient has an IV or a blood transfusion, he should be checked every 15 to 20 minutes. Watch for:

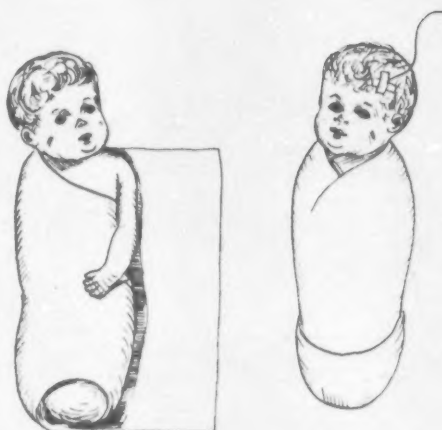
- (1) *The rate of flow*, or drops per minute; if it is not what was ordered, call your team leader to make the necessary adjustments.
- (2) *Amount of fluid left in the bottle.* When fluid is as low as the neck of the bottle, report it to the team leader so that she may prepare either to hang a continuing bottle of fluid or to discontinue the IV.
- (3) Check the *needle injection site*; an infiltrated IV is one in which the needle has come out of the vein, and the IV fluid leaks (infiltrates) into the surrounding tissue, causing swelling. If this occurs, report it to the team leader immediately because this is painful to the patient, and the IV should be restarted in another vein.
- (4) Check the *patient's reaction* to the IV therapy. You must be alert to any untoward reaction of the patient receiving IV therapy such as: twitching, increased respiration, and/or flushing. If you note any of these changes, call your team leader at once.



- (5) Check the *patient's restraints*. The older patient who is confused often requires soft restraints of the extremity which has the IV. Follow your agency's policy regarding restraints. If restraints are used, be sure they are not so tight as to occlude (block) the vein and prohibit the fluid from entering the vein.

In infants, the veins in the arms and legs are frequently too small to receive fluids. In these cases, fluids are often infused into the scalp vein. To restrain the infant with a scalp vein infusion, wrap him in a "mummy restraint." A child is "mummied" by wrapping a sheet folded in fourths (or a receiving blanket) around the body so that the arms are bound lightly to the sides of the body. Only the head, neck, and feet are free. Movement of the entire body is minimal when this type of restraint is used.

If the child is receiving an IV in an arm, be sure that both arms are restrained to prevent him from pulling the IV out. If the IV is given in the child's leg, care should be used in restraining the leg. Children with IV's should *never* be left unattended.



ITEM 5: CARING FOR A PATIENT RECEIVING AN IV

Important Steps

1. Remove patient's hospital gown.

2. Bathe patient.

3. Dress patient.

Key Points

Slip the gown off by removing the sleeve from the arm without the IV.

Keep the patient covered with a bath blanket to avoid exposure and chilling. Remember to protect the patient's modesty at all times.

Carefully remove IV bottle from stand or hanger.

Holding bottle with one hand, pull the gown over the patient's arm and tubing and over the bottle. *Do not* lower the IV bottle below needle level. The patient's blood will flow back into the needle and into the tubing. We want the fluid to run into the vein, not the blood to run out of the vein.

Rehang bottle on the IV stand.

Bathe according to the unit on Baths. Wash gently around the area where the needle is inserted. Be sure not to loosen the tape which holds the needle secure. When drying, do not rub over the vein; pat gently to avoid dislodging the needle.

Remove IV bottle from hanger.

With the sleeve of the gown (to be put on the arm with IV) in one hand, pull the sleeve over the bottle with the other hand.

Rehang the bottle on the IV stand.

Continue carefully to thread the sleeve of the gown over the tubing and arm.

Then finish dressing patient as you would any other patient.

Remember: to *undress* a patient, the IV arm is *last*; to *dress* a patient, the IV arm is *first*.

4. Assist patient to eat.

If the IV is in the hand or arm that the patient uses to eat, you will have to assist him to cut his food and prepare his liquids. You may need to feed the patient. If you feed him use the principles prescribed in the lesson on Nutrition.

Even if the IV is in the arm that the patient does not use to eat, you will cut his meats and prepare his drinks. The food and utensils should be nearby for his convenience. Assist him as needed; usually after the food is cut up, he can manage for himself.

5. Ambulate patient with an IV.

Provide a portable IV standard on wheels.

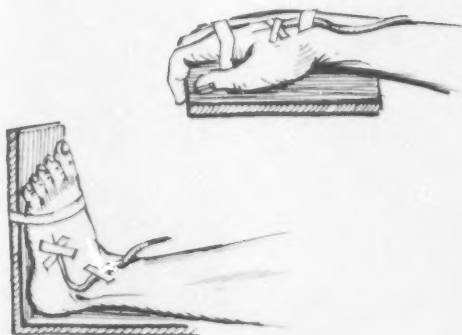
Assist the patient out of bed as you were taught. Observe him closely for weakness or dizziness.

Support the IV arm at hip-line to assure a continuous flow from the IV. A sling may be used for the patient to rest his arm in.

If the patient is able, have him grasp the IV pole with the hand which has the IV in it. This provides support for the arm, enables the patient to move the pole at his own pace, and leaves his other arm free to provide balance by holding onto the railing along the hall corridor.

Have the patient walk to one side of the corridor to prevent people from walking into him and to avoid blocking the corridor.

6. Maintain safety precautions.



7. Apply patient's restraints.

Check the patient's IV every 15 to 20 minutes. Know how many drops per minute he is to receive. You should receive this information in your patient report.

Report *immediately* to your team leader the following:

- (a) Drops running too fast or too slow.
- (b) Low fluid level left in bottle.
- (c) Swelling around the needle site.
- (d) Patient reaction to the IV fluid such as twitching, flushing, or blanching of skin, and increased respiration or pulse.

Follow your agency policies regarding the use of restraints, the type, and how applied. Check restraints frequently to see that circulation is not inhibited and that the fluid is running in correctly.

Note: Most agencies will require a written order for restraints (other than soft restraints) which are used to remind the patient not to move his arm or leg with the IV in it.

8. Chart on nurse's notes and I and O Record
(if it is being used).

Charting example:

8:15 A.M. Fed all food on general tray. Taken
eagerly. J. Jones LVN

9:45 A.M. Bed-bath given. In good spirits this
A.M. Ambulated in hall for 15 minutes. Re-
turned to bed quite tired. IV running well. 200
cc. solution left in bottle. J. Jones LVN

WORKSHEET

DIRECTIONS: Proceed through the following items. After each situation, answer the questions on this worksheet and record the appropriate information on the nurses' notes.

Item I

Situation: Mrs. Rowe, the patient in Room 333, has a continuous intravenous drip going into the right forearm. A bedbath was given at 9:30 A.M. The nurse aide then assisted Mrs. Rowe to walk in the corridor for 15 minutes. When getting into bed, Mrs. Rowe slipped and was assisted to the floor by the nurses' aide. Mrs. Rowe incurred no apparent injuries. The IV drip slowed down but continued to drip. The area around the insertion of the needle appeared slightly swollen.

Question: What action should the nurse aide take?

What will the nurses' aide chart? Record the appropriate information in your nurses' notes.

Item II

Situation: Mr. Budd, in Room 624, is on continuous bed rest because of extreme weakness. He has been getting blood transfusions daily. Miss Wood, RN, started his blood transfusion (500 cc.) at 11:00 A.M. in the left elbow. At 11:40 A.M. he rang his call light. When the nurse aide answered, she found Mr. Budd's face extremely flushed. He stated he was chilling and needed more covers. She observed tremors around the lips. The blood transfusion was dripping rapidly and approximately 300 cc. had been absorbed. Mr. Budd stated he ached all over.

Question: What action should the nurse aide take?

What will the nurses' aide chart? Record the appropriate information in your nurses' notes.

Item III

Situation: Baby Vincent had brain surgery and has an intravenous cut down running in the left inner ankle. His left leg is securely restrained. The intravenous drip has been ordered to drip at a rate of 10 gtts per minute. When the nurse aide had given 2 oz. of Baby Vincent's formula, she noted that the IV bottle was empty and had blood coming back in the IV tubing near the needle.

Question: What action should the nurse aide take?

What will the nurses' aide chart? Record the appropriate information in your nurses' notes.

POST-TEST

1. Give two reasons for giving intravenous therapy.

(a) _____

(b) _____

2. Name the three most common sites for giving an intravenous infusion.

(a) _____, (b) _____ and (c) _____

3. What are the five most important items to be checked when an IV is running?

(a) _____ (d) _____

(b) _____ (e) _____

(c) _____

4. Define micro-drip: _____

5. Define macro-drip: _____

6. What are your responsibilities in intravenous therapy? Name two.

(a) _____

(b) _____

POST-TEST ANNOTATED ANSWER SHEET

1. (a) Replace nutrients rapidly. 376
(b) When patient is unable to take nutrients orally.
2. (a) Leg (usually the foot). 376
(b) Arm (usually the elbow or hand).
(c) Scalp (in infants).
3. (a) Rate of flow. pp. 377 and 378
(b) Amount of fluid left in bottle.
(c) Injection site for swelling.
(d) Patient's reaction.
(e) Patient's restraints.
4. Micro-drip: Drip chamber which is usually used for infants where the amount of fluid taken in must be exceedingly exact. p. 377
5. Macro-drip: Larger drip chamber of the two; the micro-drip drips four to every one macro-drip. p. 377
6. (a) Observe. p. 379
7. (b) Report to team leader.

PERFORMANCE TEST

In the skill laboratory you will give a bath, feed, and ambulate a patient receiving an IV in his right arm. You will maintain constant safety checks as outlined in the unit of instruction.

Upon completion of this part, you will complete the Intravenous Therapy Worksheet.

PERFORMANCE CHECKLIST**OBSERVING****INTRAVENOUS THERAPY**

1. Dress and undress a patient with an IV without dislodging needle. (For additional detail refer to checklist in Assist Patient to Dress/Undress.)
2. Give assistance with meals when needed. (For additional details refer to unit on Nutrition.)
3. Bathe IV site during bath without pain to patient or dislodging needle. (Refer to unit on Baths if required.)
4. Assist patient with IV to ambulate. (Refer to unit on Mechanical Aids and Ambulation if required.)
5. Check safety hazards often:
 - A. IV fluid level.
 - B. Swelling around needle.
 - C. Patient's reaction to the IV.
 - D. Rate of flow.

Unit 20

ASSISTING WITH SPIRITUAL CARE

I. DIRECTIONS TO THE STUDENT

Please read the unit carefully: You will learn to understand some of the religious needs of your patients while they are in the hospital, the extended care facility, or in the home. You learn ways in which you can assist in meeting those needs, and how to obtain the services of the clergyman for the patient.

II. GENERAL PERFORMANCE OBJECTIVES

Upon completing this lesson, you will be able to assist the patient to obtain the services of the clergyman for his spiritual needs, provide for the observance of certain religious practices, and assist the clergyman as may be needed. You will be expected to show respect for the patient's religious beliefs even though these may differ from your own.

III. SPECIFIC PERFORMANCE OBJECTIVES

When you have finished this unit, you will be able to:

1. Call the religious representative requested or designated by the patient.
2. Assist the patient to observe certain religious practices during his stay in the hospital, if he so wishes.
3. Show your concern for the religious articles belonging to the patient by handling them respectfully and providing for their safekeeping.
4. Demonstrate respect for the patient's religious beliefs in all aspects of your conduct.

IV. VOCABULARY

anointing of the sick — a Roman Catholic sacrament performed by the priest with prayers for recovery and salvation, for a critically ill person or one in danger of dying. Formerly called the last rites or extreme unction.

agnostic — one who believes that the existence of God or any supreme being is unknown and probably unknowable.

atheist — one who denies the existence of God and rejects all religious faith and practice.

chaplain — a clergyman serving the spiritual needs of members of an organization or institution, e.g., hospital, college, military service, regardless of denomination.

clergyman — an ordained Christian minister, one ordained to perform ministrations in the church.

communion —

(a) Catholic (Roman and Greek); the sacrament of the eucharist; partaking of a small wafer or piece of unleavened bread which symbolizes the body of Christ.

(b) Protestant: the sacrament of receiving both the unleavened wafer of bread and a drink of wine which symbolize the body and the blood of Christ.

baptism — a sacrament signifying spiritual rebirth and admission into the Christian community through the ritual use of water. Many Christian faiths require baptism before death in order to attain grace or to be saved.

pastor, priest, rabbi — a clergyman, a religious leader of a congregation who guides the spiritual lives of its members.

sacrament — a formal religious ceremony that is sacred, performed as a symbol of a spiritual reality, especially those instituted by Christ as a means of grace.

(a) Protestant: two sacraments are generally recognized — baptism and communion.

(b) Catholic: seven sacraments — baptism, confirmation, communion, penance, marriage, anointing the sick, and holy orders.

V. INTRODUCTION

The meaning of religion and God varies among the people of the world. We know that there are many religions, and even among followers of the same religion, there are varieties of observance and interpretation of the religious doctrine. One person may be an active member of an organized religious institution, such as a church or synagogue, another may simply hold a general religious belief in God or a Supreme Being. Some people may claim to be agnostic or atheistic. The point to remember is that the individual's religious belief or lack of it is his own personal choice.

When the person becomes a patient, he brings with him his religious beliefs and needs as well as his health needs. Because illness, an operation, or an injury often represents a possible threat to the patient's life, many patients turn to religion for comfort and reassurance. The patient's mental and emotional reactions are related and have a profound effect on his physical health, and therefore we are concerned with helping the patient to *obtain support and peace of mind from his religious beliefs*.

It is important that we respect the patient's beliefs even though these may differ from our own. As a nurse, you must never argue points of religion or try to convert the patient to your own views. Some patients may wish to talk about death and dying; the nurse can help most by *listening* and encouraging the patient to talk about how *he* feels or what this might mean to him. In the beginning, this is difficult for most health workers because this subject is seldom discussed in our society, and generally tends to be avoided. For the patient, however, it may be very important to talk as he faces the stress of illness or surgery. The clergyman can be a most valuable member of the health team because he is skilled in giving spiritual support to the patient.

ITEM 1: CARE OF RELIGIOUS ARTICLES

Many patients, when they are admitted to the hospital, bring some religious articles with them. Although these articles may not seem important to you, they hold great significance for the patient who owns them. When you are taking care of him, be sure to treat these possessions with respect and be careful not to drop or misplace them.

Patients who are members of the Catholic faith usually bring crucifixes, religious medals, and rosaries with them. Often, the Catholic patient wishes to wear a medal, but if it is pinned to his hospital gown, it may be lost when the gown is changed. It would be better to tape or tie the medal to the patient's wrist in order to keep it from being lost.

Protestant patients may bring a Bible, prayer books, or other religious reading materials to the hospital with them. Orthodox and Conservative Jewish men may wear a skull cap (yarmulke) during their daily prayers while they are in the hospital.

ITEM 2: DIETARY REGULATIONS

Certain religious denominations follow special dietary customs. Some of the most common customs you will encounter are described below:

Catholic: Although the Catholic Church has relaxed its dietary regulations, many Roman Catholics still do not eat meat on Fridays and on other specified days.

Protestant: Dietary restrictions vary among different denominations, and many have no restrictions that would affect the hospitalized patient. Some, such as the Seventh Day Adventists, are vegetarians (eat no meat) and do not drink stimulants (coffee, tea, or liquor). Other denominations prohibit smoking or drinking of alcoholic beverages.

Jewish: Jewish doctrine (law) forbids eating pork and shellfish. The *Orthodox Jew* (strict in observance of law and tradition) eats only kosher foods that are prepared in a manner prescribed by Judaic law. Foods containing milk are not eaten at the same meal with meat. The *Conservative Jew* observes slightly modified dietary regulations and is somewhat less strict in his observances. The *Reform Jew* has no dietary restrictions; his practice of Judaism can be described as a simplified and liberal approach and belief.

ITEM 3: REQUESTS FOR VISIT OF CLERGYMAN

The chaplain on the staff of a health agency provides spiritual service for patients on a non-denominational basis. If your agency does not have a resident chaplain, the patient may ask you to have a Protestant minister, a priest, a rabbi, or another religious representative come to see him, or you may ask the patient if he has a preference. After the patient makes his request, call a local church or temple as indicated by the request, and ask that one of its clergymen visit the patient. Many patients will request a visit from a specific priest, minister, or rabbi. In that case, you would obtain the necessary information about his name, the church or temple he represents, and its location.

When making a call to ask a clergyman to visit a patient, you should have the following information:

- (a) The clergyman — specified by denomination, church or temple, or by name.
- (b) The patient — his name, room number, name of the hospital or agency, and a general statement about his condition, e.g., that he is critically ill or will be undergoing surgery.
- (c) The service to be performed — a general visit, or administering the sacraments of communion, baptism, or anointing of the sick (extreme unction).

After you have called the clergyman, tell the patient that you have contacted him, give his name, and the approximate time of the visit, if this is known. By reporting back to the patient, you are letting him know that he can depend on you and that you are concerned about his needs.

ITEM 4: HOW TO ADDRESS A CLERGYMAN

Most clergymen will introduce themselves when they arrive at a hospital or agency to see a patient and they give their title as well as their name so you will know how they are addressed. However, if you are in doubt as to what to call a Protestant minister, the title of Pastor or Mister is customarily used with his surname. If he has a doctor of philosophy he would be called "Doctor." The title "Reverend" is often used incorrectly to address Protestant clergymen.

The Catholic priest is addressed as "Father," and some Episcopal ministers may also use this title. Jewish clergymen are called "Rabbi," which means master or teacher. Rabbis who have a doctoral degree would, of course, be addressed with the title of doctor. Any clergyman appointed to serve members of an organization such as a hospital, military service, etc., may be called "Chaplain."

ITEM 5: THE SACRAMENT OF COMMUNION

As stated earlier, communion is an important sacrament of the Christian faith. It is a spiritual reconfirmation or rededication of faith which provides great consolation for the patient.

In most Catholic hospitals, communion is given daily to those Catholic patients who desire it. Each hospital has a procedure for notifying the priest about patients requesting communion, such as a list that gives the name of the patient and his room number. Catholic patients usually take communion before surgery, and during any serious illness. In other hospitals communion is given on a PRN (as needed) basis, or as requested by the patient. The priest or minister will generally bring whatever he needs for the celebration of communion.

The following procedure is commonly used in Catholic hospitals and other agencies to prepare the patient for communion, especially when the priest will be administering the sacrament to a number of patients.

Important Steps

1. Wash your hands.
2. Approach and identify the patient.
3. Offer the patient the bedpan/urinal, or have him go to the bathroom.
4. Prepare work space for clergyman to conduct communion.
5. Place the patient in a comfortable supine or semi-Fowler's position.
6. Provide for privacy.
7. After the sacrament is over and the priest has gone, tidy the room and provide for the patient's comfort.

Key Points

Explain that the priest or minister will come in soon to offer communion.

Have him wash his face and hands. He may do this in the bathroom if he is ambulatory. Otherwise, you will assist him to do this.

Provide a clear area on the bedside stand or overbed table for the articles used in the sacrament. Cover the table with a clean towel. Place a teaspoon and another folded towel neatly on the towel. (The teaspoon and extra towel may be optional; check your agency procedure.) The towel is used either by the clergyman or the patient if needed. The clergyman will place his special kit on the work area. A glass of water may be needed to assist in swallowing the "wafer" or unleavened bread.

Pull the curtain around the bed, or close the door of the room.

Unless you are requested by the clergyman to assist the patient, leave the immediate area to allow the patient and priest (or minister) privacy, since confession may precede the sacrament of communion.

Following communion, the priest or minister will probably offer a short prayer. Often the patient will meditate or nap following communion.

Important Steps

8. Record on patient's chart.

Key Points

Charting example:

7:30 A.M. Communion given by Father John.
J. Jones S.N

ITEM 6: THE SACRAMENT OF BAPTISM

Baptism is a sacrament practiced by the Catholic faith, as well as many Protestant faiths, in which the participant pledges himself to observe the precepts of his faith, and in so doing, becomes a full member of this religion. According to most Christian beliefs, it is essential for an individual to be baptized before he dies, in order to attain salvation.

In the hospital, the sacrament of baptism is important when a patient, usually a newborn baby, is in danger of dying. When it is a baby born to Catholic parents, the nurse should be prepared to baptize the baby in the absence of a clergyman. Some Protestant parents may also request that the baby be baptized when his life is in danger. The following procedure is used for baptism.

Important Steps

Follow steps 1 through 4 in Item 5, communion procedure.

5. Obtain baptism tray and place it on a table cleared for that purpose.
6. Pour a small amount of holy water into the vessel.
7. Sprinkle a few drops of water on the patient's head and baptize him.

8. Tidy the room and attend to the needs and comfort of the patient.

9. Record on patient's chart.

Key Points

Some hospitals use a baptism tray which contains a vessel or shallow basin, and a bottle of holy water (water that has been blessed by a priest).

If the clergyman is baptizing the patient, he will do this; otherwise you would.

The clergyman, or you, would then say the words, "I baptize thee in the name of the Father, and of the Son, and of the Holy Ghost. Amen."

If the infant is Catholic, it is preferable to have a Catholic nurse baptize him; however, anyone can do it. The important fact is that the child is baptized.

Charting example:

7:50 P.M. Baptized by A. Jones, S.N.

ITEM 7: ANOINTING OF THE SICK

This is a Catholic sacrament of utmost importance to the Catholic patient, because it is intended to prepare his soul for life after death. This sacrament is administered only once during a critical illness, or a period of illness when there is danger to the patient's life (e.g., the very aged person), but it can be given several times during one's life. If a Catholic patient dies without receiving this sacrament, the priest should be notified promptly so that he can determine whether the sacrament can still be given.

The following procedure is used in preparing the patient for the sacrament of anointing of the sick.

Important Steps

Key Points

Follow steps 1 through 4 in Item 5, the communion procedure.

5. Remain with the patient and the priest.
6. Priest anoints the patient.
7. Tidy the room, return supplies to storage, and attend to the needs and comfort of the patient.
8. Record on the patient's chart.

You may be needed for assistance. Fold back the bedcovers to expose the feet. Stand respectfully at the foot of the bed.

He will use oil to anoint the patient's forehead, eyes, nose, mouth, hands, and feet.

Replace the bed covers. If the patient's condition is critical, you may be expected to stay with him and observe him closely.

Charting example:

1:00 A.M. Anointed by Father John; or Sacrament of anointing the sick by Father John.

J. Jones, SN

ITEM 8: JEWISH RITE OF CIRCUMCISION

The Jewish rite of circumcising the male baby is performed much less frequently in hospitals than it was previously, when mothers and babies stayed for a week or longer after the baby's birth. You should understand why some Jewish mothers do not have their baby sons circumcised before taking them home. However, it may still occur from time to time.

Circumcision is a surgical procedure of cutting away a portion of the prepuce, or foreskin, of the penis for the purpose of cleanliness. In the Jewish faith, it is a method of purification and is usually done on the 8th day after the baby's birth. Frequently a Mohel (one who has specifically trained for this procedure) performs the circumcision before a prescribed number of witnesses. Following the ceremony, there is usually a celebration at which wine and cakes are served to family and friends. Nowadays, however, the obstetrician frequently performs the circumcision.

ITEM 9: THE MOSLEM RITE OF CIRCUMCISION

The Moslems also circumcise (*Sunnat*) their infants, although it may be done anytime during a lifetime.

ITEM 10: OTHER RELIGIOUS BELIEFS AFFECTING HEALTH CARE

As a part of your job, you may come into contact with patients who have beliefs (religious or personal) different from those previously mentioned. Many individuals and religions stress the "natural order" of life. The "natural order" is a philosophy which believes that our existence depends on the balance found in nature or the environment. Many of these beliefs are beneficial to the health of individuals, but a few may pose problems in the realm of health care.

One belief that you may encounter is that of Jehovah's Witnesses, which forbids the use of blood transfusions. A patient who holds this belief will refuse to have surgery which may require blood transfusions or transfusion for medical reasons even though it is a matter of life and death.

Christian Scientists also stress the natural order and the positive power of faith. When someone of this faith becomes sick or disabled, he puts off seeking medical help until the illness or disability becomes quite far advanced.

These are two examples of religious beliefs that may pose difficulties in matters of health care. However, *people have a right to their beliefs and a right to refuse treatment that is contrary to their beliefs.*

ITEM 11: CONCLUSION OF THE UNIT

You have now completed the unit on Assisting with Spiritual Care. Arrange with your instructor to take the performance post-test, so that you can demonstrate your skills in assisting the patient with his religious needs.

PERFORMANCE TEST

In the classroom or skill laboratory your instructor will ask you to demonstrate your skill in carrying out the following procedures without reference to your lesson guide, notes, or other source material.

1. Given a Protestant patient who has requested to see a Methodist minister before going to surgery in two days, you are to make a phone call and provide the minister with the necessary information (simulated).
2. Given a critically ill Catholic patient whose family has requested that the priest be called to give the sacraments, you are to prepare the patient and assist as may be necessary in the sacrament of anointing of the sick (simulated).
3. Describe for your instructor what you might say and do in the following situations:
 - A. An Orthodox Jewish patient eats only kosher foods and your hospital has no way of providing kosher foods although it does have a selective menu for patients.
 - B. A Catholic patient has been prepared for surgery (had all jewelry, rings, watch, false teeth, etc., removed) but wants to wear a certain religious medal to surgery for his spiritual protection.

PERFORMANCE CHECKLIST

ASSISTING WITH SPIRITUAL CARE:

CALLING A CLERGYMAN AT THE PATIENT'S REQUEST

1. Look up name of a church of proper denomination in phone book or list provided by agency.
2. Make phone call and identify self.
3. State purpose of call. (The following may be in any order)
 - A. Give name of patient and room number.
 - B. State name of hospital.
 - C. State that patient will be going to surgery in two days.
 - D. State that patient wishes to see the clergyman before surgery.
 - E. Make a statement about the general condition of the patient.
4. Obtain name of clergyman who will visit and the approximate time.
5. Report back to patient that call had been made, name of person who will be making call and at what time.
6. Record activity on nurse's notes.

**PREPARING THE PATIENT FOR THE SACRAMENT OF ANOINTING
THE SICK**

1. Approach patient and explain that the priest will give the sacrament.
2. Have the patient void and wash hands and face; assist as needed.
3. Clear space for sacrament articles and place towel as cover. Provide teaspoon and second towel if part of agency's procedure.
4. Place patient in comfortable position — supine or semi-Fowler's.
5. Pull curtain to provide for privacy.
6. Fold back bedcovers to expose feet.
7. Stand by respectfully as priest gives sacrament.
8. Replace top bed covers over feet after sacrament.
9. Dispose of soiled linen, clean and return teaspoon to proper area, and tidy room.
10. Attend to needs and comfort of the patient. (Ask if there is anything the patient needs.)
11. Record sacrament of anointing the sick on patient's chart, with time and name of priest.

DISCUSSION OF SITUATIONS

1. Jewish patient who eats kosher foods.
 - A. Show respect for other's religious beliefs in discussing alternative ways of meeting patient's dietary needs.
 - B. Might allow the patient's family to bring in some kosher prepared food (check with agency procedure).
 - C. Help patient to select foods from the menu which he can eat, such as fruits, vegetables with milk dishes at one meal, and with meat dishes at next meal.
 - D. Other alternatives include: having food sent in from a kosher restaurant, "meals on wheels," or commercial source.
2. Catholic patient wearing medal to surgery.
 - A. May be able to tape the medal to patient's wrist unless it would be in the area where surgery is to be done.
 - B. Show respect for other's religious beliefs in discussing alternative ways of meeting the patient's needs.
 - C. Can discuss with patient other ways in which he can obtain spiritual protection — visit with priest, and taking of sacraments before surgery, etc.
 - D. Other possible ways suggested by the student.

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